Inspector's Report

ABP-308163-20

Development	Installation of battery arrays, located within container units, a control building and transformer. Development will include for ancillary infrastructure. The application includes a NIS.
Location	Garracummer Wind Farm, Kilcommon Cross, Moanvaun, Hollyford, Co. Tipperary.
Planning Authority	Tipperary County Council
Planning Authority Reg. Ref.	2018
Applicant(s)	Brookfield Renewable Ireland Limited
Type of Application	Permission
Planning Authority Decision	Grant Permission
Type of Appeal	Third Party
Appellant(s)	Paul and Edel Grace and others
Observer(s)	None.

Date of Site Inspection	15th February, 2021
Inspector	Stephen Kay

1.0 Site Location and Description

1.1. The appeal site is located on lands that are within the site of the existing Garracummer windfarm development that is located approximately 2km to the north west of Hollyford village in Tipperary.

1.2. The site is accessed via the L-5105 local road that runs to the north west from Hollyford village and, in the townland of Moanvaun, there are windfarm access roads that run in both north east and south west away from the public road and which access the constructed and operational Garracummer windfarm. The appeal site is located in the part of the Garracummer windfarm located to the south of the local road and is in the vicinity of the turbine that is closest to the road in this location.

1.3. The appeal site encompasses a significant area including lands to both the north and south of the existing access road and extending as far south as the wind turbine that is located closest to the road in this location. To the north of the access road, the site takes in the existing windfarm substation compound and building. To the north of the access road, the ground level rises significantly between the access road and the base of the turbine that marks the southern extent of the appeal site.

1.4. The part of the site that is the subject of proposed development is located immediately to the north of the existing access road and to the south of the existing substation building and compound. Ground levels in the part of the site where development is proposed rise by approximately 10.5 metres from north to south.

1.5. There is an existing commercial forestry plantation located immediately to the north west of the appeal site and to the south of the site is early phase forestry planting.

1.6. The overall site area is not cited in the planning application form however the extent of the proposed development area within the site measures approximately 0.36 ha. (73 metres by 50 metres).

2.0 **Proposed Development**

2.1. The proposed development comprises the installation of battery storage units within the site of an existing operational windfarm. As outlined above, the area where development is proposed is located immediately to the south of the existing windfarm access road that runs through the appeal site and to the south of the existing Garracummer Windfarm substation.

2.2. The battery storage units are proposed to be housed in an array of 18 no. container units that each have an area of c.30 sq, metres (12 metres in length by 2.5 metres in width) and which have an overall height above ground level of c. 2.6 metres. The container units are proposed to be arranged in rows with a separation distance of 5 metres end to end and 3 metres side to side. Containers that would house the battery storage units are proposed to be modified standard 40 foot steel shipping containers with the addition of access doors and ventilation louvres. .

2.3. The response to further information submitted to the Planning Authority indicates that the capacity of the battery storage units proposed is proposed to be between 2.5 and 2.8 MW. The response to the grounds of appeal state that the maximum overall capacity of the development would be 50MW. The development is stated to have a lifespan of c.15 years and 4,500 cycles. On completion of this period it is proposed that the development would be de commissioned and the site restored.

2.4. To the north east of the container units, a single storey pitched roofed control building with a floor area of c.130 sq. metres and an overall height of 6.4 metres is proposed to be located adjacent to the access track. A bunded transformer is also proposed to be located in this area. Lighting and cctv to the area where the battery storage units are located is proposed to be provided by the use of 6 metre high light standards.

2.5. To accommodate the development on what is currently a steeply sloping site, earth works are proposed to create a level site. A reduction of up to c.7 metres in the existing ground level is proposed at the rear of the c.73 by 50 metre area within which the new equipment is proposed to be installed and the embankments on each side of this area would have a gradient of 1:1.5.

2.6. The levelled construction area is proposed to be surrounded by a cut off drain that would connect with the existing Garracummer Windfarm surface water drainage system. In the immediate vicinity of the appeal site, this existing surface water drainage system comprises drainage ditches on both sides of the access track and flowing in a northerly direction towards the local road.

2.7. The application as submitted to the Planning Authority was accompanied by

- An Environmental Report,
- Ecological Impact Assessment,
- Stage 2 Appropriate Assessment (NIS).

3.0 Planning Authority Decision

3.1. Further Information

Prior to the issuing of a Notification of Decision the planning authority requested further information on the following issues:

- Requested to submit a Fire Safety Risk Assessment to include separation between containers, systems for fire fighting and measures to prevent pollution in the event of a fire,
- Submission of a Noise Impact Assessment that includes a background noise assessment regarding the operational phase of the proposed development.
- Clarification regarding the suitability of standard 40 foot containers for the form of development proposed.
- Clarification regarding the proposed lighting and cctv locations given apparent inconsistencies between plan and elevation drawings.
- Site Layout Plan showing the surface water collection system on the site.
- Details of the storage capacity of the proposed development in MW.

In response, the first party submitted the following information:

1. Stated that a fire safety cert will be obtained prior to the commencement of development. A hazard analysis and risk assessment will form part of this process.
2. Clarified that units to be spaced 3 metres apart and rows of containers separated by 5 metres.
3. That the exact specification of the batteries has not been determined but will be the most appropriate available at the time of the commencement of the development.
4. That the batteries will be safety tested prior to installation and safety measures incorporated into the design, installation, and operation of the development.
5. Stated that the development will be continuously monitored including the ability to monitor every battery cell. This battery management system (BMS) has the ability to reduce the flow of power into individual cells or completely disconnects that cell in the event that it detects what may be a fault.
6. That the containers have been specifically designed to minimise the potential risks and hazards.
7. That the containers will all be fitted with a fire suppression system as well as manual fire fighting equipment.
8. Details are also submitted of how pollutants or contaminated water from fire fighting would be dealt with. Proposed that a cut off drain will be located around the site and that this system will connect with the existing windfarm drainage system.
9. A Noise Impact Assessment was submitted which indicates that the noise generated by the proposed development would be within acceptable limits when measured at the nearest noise sensitive receptor.
10. Details of all light fittings and location of CCTV shown on revised drawing Site Development details.

11. The capacity of the battery storage units proposed is stated to be between 2.5 and 2.8 MW.

3.2. Decision

The Planning Authority issued a Notification of Decision to Grant Permission subject to 8 no. conditions, the most significant of which can be summarised as follows:

- Condition No.2 requires that surface waters from the development shall be collected and disposed of as per the details submitted with the application.
- Condition No.4 specifies that the permission shall be for a period of 30 years from date of commissioning.
- Condition No.6 requires the preparation and submission of a Construction and Environmental Management Plan (CEMP). This is to include, inter alia, a method statement for the management of surface water and to have regard to the Natura Impact Statement, the Environmental Report, Ecological Impact Statement and Noise Assessment.

3.3. Planning Authority Reports

3.3.1. Planning Reports

The initial planning report notes the content of internal reports from other sections and third party submissions. The principle of development is considered consistent with national and local policy concerns regarding potential noise, fire risk and associated impacts from fire fighting on hydrology and water quality are identified. Considered that no reasonable scientific doubt with regard to the potential impacts on European sites. Initial report recommends further information as per the issues requested and second report subsequent to the submission of further information recommends a grant of permission consistent with the notification of decision which issued.

3.3.2. Other Technical Reports

District Engineer – No objection subject to conditions.

Environment – Initial report notes the potential fire hazard from lithium ion batteries and the potential for high temperature combustion. A fire safety risk assessment report is recommended along as an assessment of the suitability of standard containers for the proposed use. A noise assessment is also recommended. Second report subsequent to the submission of further information notes the results of the submitted noise assessment and that there are not likely to be impacts arising at noise sensitive locations in the vicinity. Specifically, night time noise will not exceed 45dBA. Noise limits by way of condition are not considered necessary.

Fire Officer – Report indicates that the response to further information is satisfactory.

3.4. Prescribed Bodies

None.

3.5. Third Party Observations

The following are the main issues raised in the two third party submissions made to the planning authority:

- Concerns regarding existing non-compliance with planning permission / conditions at the Garracummer windfarm site.
- Potential for noise emissions and impact on health.
- Potential impact on groundwater quality and on water supplies for home within 500 metres of the site and downslope.
- That the response to further information does not contain sufficient detail with regard to the measures proposed to address fire risk.
- Negative visual impact,
- No quantification of excavated material.

- Non compliance with SI209 of 2015 Chemical Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, 2015.
- That there is a fire risk from the proposed development, and it is not clear that there is capacity to address this risk in the local fire service,
- Concerns regarding health impacts of the proposed development.
- Defective NIS. Not full consideration of fire risk and potential impact on European sites and reliance on third party unverified information in the NIS.

4.0 Planning History

Tipperary County Council Ref. 04/1259; ABP Ref. PL23.215597 – Permission grated by the Planning Authority and decision upheld on appeal for the development of a 26MW wind farm comprising a total of 13 no. 2MW turbines. Each turbine with a blade tip height of up to 107 metres.

There is reference in the report of the Planning Officer to a current enforcement file (Ref. TUD-18-168) relating to alleged non-compliance with conditions attached to the above permission.

5.0 Policy Context

5.1. National Policy

The EU has set binding targets for Member States to reduce greenhouse gas (GHG) emissions by 20% by 2020. In addition, under the EU Renewable Energy Directive (2009/28/EC) Ireland is committed to produce from renewable sources at least 16% of all energy consumed by 2020. Ireland has committed to meet this national target through 40% renewable electricity, 12% renewable heat and 10% renewable transport. Ireland's National Policy position is to reduce CO2 emissions in 2050 by 80% on 1990 levels across the Energy Generation, Built Environment and Transport sectors, with a goal of Climate neutrality in the Agriculture and Land-Use sector.

5.1.1. **National Planning Framework**

National Policy Objective 55 stated that it is an objective to:

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

5.1.2. **Regional Spatial and Economic Strategy (RSES) for the Southern Region**

The recently adopted RSES for the Southern region contains a number of provisions of relevance to consideration of this appeal:

RPO 95 related to Sustainable Renewable Energy Generation states that:

'It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan ……'

RPO 99 related to Renewable Wind Energy states that:

'It is an objective to support the sustainable development of renewable wind energy (on shore and offshore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines.'

RPO 100 related to Indigenous Renewable Energy Production and Grid Injection states that:

'It is an objective to support the integration of indigenous renewable energy production and grid injection.'

RPO 219 related to new energy infrastructure states that:

It is an objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to ensure the energy needs of future population and economic expansion within designated growth areas and across the Region can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet future needs.

5.2. Development Plan

The site is located within the administrative area covered by the *South Tipperary County Development Plan, 2009* (as varied and extended).

The site is located within a secondary amenity area as identified in the development plan (Figure 7.1) and is within the Upperchurch / Kilcommon Hollyford Hills Mountain Landscape Character Area.

Section 7.2 of the plan states that '*The Council will see to ensure that a balance is achieved between the protection of sensitive landscapes and the appropriate socio-economic development of these areas. In this respect, development proposals will be required to demonstrate that they integrate and respect the visual quality of the landscape.'*

Policy LH2: Protection of Visual Amenity and Character of Primary and Secondary Amenity Areas states that

> *It is the policy of the Council to ensure the protection of the visual amenity, landscape quality and character of designated Primary and Secondary Amenity Areas. Developments which would have an adverse material impact on the visual amenities of the area will not be permitted. New development shall have regard to the following:*
>
> *a) Developments should avoid visually prominent locations and be designed to use existing topography to minimise adverse visual impact on the character of primary and secondary amenity areas.*
>
> *b) Buildings and structures shall ensure that the development integrates with the landscape through careful use of scale, form, finishes and colour.*

The site is not located such that it is impacted by any listed or protected views as identified in Appendix 5 of the development plan.

Policy LH6 relates to Natura 2000 sites and protected species and states that it is policy of the council to ensure the protection, integrity and conservation of existing and candidate Natura 2000 sites and Annex I and II species.

A ***Renewable Energy Strategy for County Tipperary (2016)*** included at Appendix 6 of the development plan and includes a revised wind energy strategy in Appendix 1 of Volume 1. As per Map 11 of the Wind Energy Strategy, the appeal site is located in an area that is identified as being unsuitable for new wind energy developments.

Policy TI13: Light Pollution states that

> *It is the policy of the Council to ensure that new development does not result in significant disturbance as a result of light pollution and to ensure that all new developments are designed and constructed to minimise the impact of light pollution on the visual, environmental and residential amenities of surrounding areas in accordance with the provisions of the Development Management Standards set out in Chapter 10.*

5.3. Natural Heritage Designations

The site is not located within or in close proximity to any European sites. The closest European sites to the appeal site are as follows:

- The Lower River Shannon SAC (site code 002165) is located approximately 1.1km to the north west at the closest point.
- The Slievefelim to Silvermines Mountains SPA (site code 004165) is located c.1.5km to the north west of the appeal site at the closest point.
- The Anglesey Road SAC (site code 002125) is located c.3.3km to the east of the appeal site at the closest point.

5.4. EIA Screening

The form of development proposed comprising battery storage units for the storage of energy generated from renewable sources before discharging to the grid does not comply with any class of development as set out in Parts 1 or 2 of the Fifth Schedule of the *Planning and Development Regulations, 2001 (as amended*). The form of development proposed is not therefore of a class for the purposes of EIA and the submission of an EIAR is not required.

6.0 **The Appeal**

6.1. **Grounds of Appeal**

The following is a summary of the main issues raised in the third party appeal:

- That lithium ion batteries have a significant fire risk and have a risk of thermal runway effect where a fault and fire in one cell can spread to surrounding cells.
- That fires in such batteries can release significant gasses that can explode and cause injury. The proposed development does not therefore comply with the 2015 Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations.
- That the Fire Safety Assessment undertaken and submitted as part of the response to further information does not contain a risk assessment and no details are given to support the statements made in the FI response. Stated that a fire risk assessment and hazard analysis will not be undertaken until such time as a Fire Safety Application is made.
- The statements make reference to a 'moderate fire'. There is no indication as to what this means. The heat generated by a Li Ion fire can reach 1000 degrees C. Not therefore clear how it can be stated that a fire would not result in a radiative intensity that would not ignite common combustibles.
- Stated that a gas suppression system will be used in the development however no details are provided including what type of gas or where it would be stored. Not clear that it would work or be safe in the event that personnel were within the containers at the time.
- If the onsite suppression does not work, then the fire brigade will be called. It is not however clear what methods they would use and if water is used, how this would be contained without causing pollution. Where would water be sourced from. Such fires require very large volumes of water to extinguish.
- Should be noted that Lithium Ion fires can reignite days after the initial fire.

- There are no details about how many Lithium Ion batteries there would be in each container.
- The risks arising from Lithium Ion batteries is set out in a document from AIG Energy Industry Group (copy on file).
- That the ecology report and the NIS rely on third party information that is not verified by the project ecologist / author.
- That Case C404/09 Commission vs Spain (paragraph 100) makes it clear that an assessment under Art. 6(3) has to be contain complete precise and definitive findings and conclusions capable of removing all reasonable scientific doubt and cannot contain any gaps. This is not the case with the submitted application / NIS and such that to grant permission would be ultra vires the EU Directive and Irish Planning law.

6.2. Applicant Response

The following is a summary of the main issues raised in the first party response to the grounds of appeal:

- That the Natura Impact Statement and the Ecological Impact Assessments submitted with the application were prepared by experienced ecologists.
- That the Planning Authority was satisfied with the proposed development and internal reports from district engineer, scientist and fire officer employed by the council were supportive of the proposed development.
- That there is a clear need for the form of development proposed to meet the targets set in the Paris agreement and the EU targets for 2030. Currently, the percentage energy target from renewable sources (16% by 2020) is not being met and only stands at c. 10.9%.
- Decarbonising of electricity is central to energy targets including those in the Climate Action Plan. Battery storage of the form proposed can help to mitigate some of the grid connection challenges that increasing renewable energy penetration onto the grid presents.

- That the need for the form of development has been recognised at national and local level. An Bord Pleanala and local authorities have granted permission for battery storage developments at a number of locations throughout Ireland. Examples of both are cited in the appeal response.
- The document prepared by AIG and cited by the appellants is noted. This document specifically identifies that the risks associated with these batteries are connected with users not being familiar with the technology and not being energy specialists. This is not the case with the applicant in this case who is one of the leading renewable energy development companies operating in the Irish market.
- That none of the 4 no. case studies referenced by the appellants where li batteries have caught fire relate to battery storage developments. The examples also date from between 2011 and 2016 and therefore the technology used has advanced further since those examples.
- The most up to date technology will be used in the development.
- That prior to the commencement of development, details of the fire suppression system will be submitted to the Tipperary Fire and rescue Service for their approval and a fire safety certification will be obtained. The analysis for the fire safety certificate will include a detailed hazard analysis and risk assessment.
- That the response to further information submitted (RFI) set out the testing and monitoring system, design measure, fire suppression and additional safety measures to be implemented. Copy of the relevant RFI attached with response submission.
- Contended that these measures are industry standards and that the facility will have a maximum capacity of 50MW and that the latest and safest technology will be employed.
- Noted that the Tipperary Fire and Rescue Service had no objection to the proposed development and that the report on file from the Fire Officer indicates that they are satisfied with the undertakings given.

- That both the first party and the Fire Officer of the council are satisfied that no fire and explosion risks are associated with the proposed development.

6.3. Planning Authority Response

The response received from the Planning Authority was received outside of the period specified for the receipt of a response and was returned.

6.4. Further Responses

The application was referred by the Board to The Commission for the Regulation of Utilities, the Health Service Executive, and the Heritage Council for comment. A response was received by the Board from the HSE National Office for Environmental health Services based in Athlone. The following are the main points raised in this submission:

- That the requirement for a detailed construction and environmental management plan and mitigation measures identified will adequately protect public and environmental health during the construction phase.
- That that there is no basis to conclude that noise would be a public health issue during the operational phase of the development.
- That the EHS (environmental health service) consider that there is adequate protection of ground and surface waters if all mitigation measures set out in the application documentation are implemented in full. The proposed use of an interceptor drain that would connect to the windfarm drainage system and the controls within this system are noted.

7.0 **Assessment**

7.1. The following are considered to be the main issues relevant to the assessment of this appeal:

- Principle of Development
- Visual Impacts
- Safety, Fire Hazard, and Impact on Properties in the Vicinity
- Other Issues
- Appropriate Assessment

7.2. **Principle of Development**

7.2.1. The appeal site is located outside of any identified settlement and in a rural area. The site is however within or in immediate proximity to the site of the permitted and operational Garracummer windfarm, and the nature of the development proposed comprises infrastructure that is directly connected with, and which would be ancillary to, the existing windfarm use.

7.2.2. The site is located within the administrative area covered by the *South Tipperary County Development Plan, 2009* (as varied and extended). The site is located outside of any identified settlement and is not subject to any specific zoning objective. Zonings are identified in the settlement plans section of the county development plan however none of these identified zonings relate to the appeal site, and it is not therefore possible to state that the proposed development is or is not consistent with land use zoning. Developments outside of the identified settlements are therefore to be considered on their individual merits.

7.2.3. A Renewable Energy Strategy for County Tipperary (2016) comprises Appendix 6 of the development plan and includes a revised wind energy strategy in Appendix 1 of Volume 1. As per Map 11 of the Wind Energy Strategy, the appeal site is located in an area that is identified as being unsuitable for new wind energy developments. Policy TWIND4 of the Wind Energy Strategy states that '*new wind energy development in these areas is not permitted. These areas have a special or unique landscape character where the main objective is conservation. Where there are*

existing wind energy developments in these areas, their repowering may be considered appropriate. Any impact on the environment must be low and subject to proper planning and sustainable development, and the guidelines set out in this strategy.' Policy TWIND4.14 also provides for windfarm development within such areas on a case by case basis in circumstances of 'repowering' (i.e. replacement of turbines) or extensions of existing wind farms of up to 20 percent where the site is outside of a Natura 2000 site. The form of development proposed does not in my opinion comprise a '*new wind energy development'* such as would be precluded in principle under the adopted wind energy strategy.

7.2.4. The form of development proposed would complement existing sources of renewable energy generation and facilitate a greater penetration of renewable energy onto the grid. In my opinion therefore, the form of development proposed is consistent with the achievement of the renewable energy targets set out in the Paris agreement and in the governments Climate Action Plan. I also note and agree with the comments of the first party that battery storage of the form proposed can help to mitigate some of the issues relating to the accommodation of increased quantities of renewable energy onto the grid.

7.2.5. In terms of national and regional planning policy, objectives set out in the National Spatial Strategy primarily relate to the promotion of renewable energy use and generation. NPO55 of the NPF does however include reference to the promotion of the use of renewable energy, which I consider would be facilitated by the proposed energy storage development. At a regional level, and the objectives contained in the Regional Spatial and Economic Strategy (RSES) for the Southern Region, I consider that the form of development proposed would be consistent with Objective RPO 99 which promotes (inter alia) the development of renewable energy infrastructure and Objective RPO 219 related to new energy infrastructure and which makes reference to '*the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers* ….'. Overall, therefore, I consider that the form of development proposed would be a significant asset in the achievement of national renewable energy targets and policy and, in principle, would be consistent with national, regional, and local energy policy.

7.3. Landscape and Visual Impacts

7.3.1. The site is located within a secondary amenity area as identified in the development plan (Figure 7.1) and is within the Upperchurch / Kilcommon Hollyford Hills Mountain Landscape Character Area. As per Policy LH2 of the development plan, it is policy in such secondary landscape areas to ensure the protection of the visual amenity, landscape quality and character of such areas and to ensure that development which would have an adverse material impact on the visual amenities of the area will not be permitted. As noted above, the site is located within an area that is identified in the 2016 Tipperary Wind Energy Strategy where new wind energy development is not permitted on account of a range of factors coinciding in this general area, including visual sensitivity.

7.3.2. In the case of the proposed development, the proposal would result in a significant additional area of development measuring approximately 70 metres by 50 metres being created. This ***landscape impact*** of this development area would however be mitigated by the proposed cutting in to the existing slope with the containers located such that they would not form a visually prominent feature against the existing topography. The scale of the proposed structures in terms of height is limited and the siting of the proposed development is an area of the landscape that has already been modified by the development of the Garracummer windfarm including the turbine and substation structures located in close proximity to the appeal site. The structures are proposed to be painted to assimilate into the landscape. The impact of the development on the wider landscape would be limited by the fact that the development would not be located in a prominent hilltop or ridgetop location and the available views of the site would be restricted by the contours of the landscape and existing forestry such that impacts on the landscape character would only potentially arise from locations to the north east and east of the site. Overall, on the basis of its scale and siting, together with the location in an area that has already been modified by the existing windfarm infrastructure, I do not consider that the proposed development would have a significant adverse impact on landscape quality or character.

7.3.3. In terms of ***visual impacts*** arising from the development, the site is not located such that it would impact on any views identified in the development plan and listed in Appendix 5 of the Plan. The nature, location and scale of the proposed development is such that it would not be visible from locations on the public road or residential properties to the north or to the south of the site. Some limited views of the development would be available from the north east and specifically from the public road in the vicinity of the access to the site. The extent of such views would however be limited in terms of the extent of the public road impacted and also on the change to the existing view that would arise. Again, the scale and siting of the proposed development is considered to be such that the impact on views from this location would not be significant and a significant negative impact on visual amenity would not therefore arise.

7.3.4. Having regard to the scale and nature of the development proposed and the degree to which it would be assimilated into the existing landscape and the already modified context of the site, I consider that the proposed development would be consistent with the specific requirements of Policy LH2 of the plan, specifically the avoidance of a visually prominent location, use of the existing topography and scale colour and design to mitigate the impact on the landscape.

7.4. Safety, Fire hazard and Impact on Properties in the Vicinity

7.4.1. The main basis of the appeal received from the third party appellants relates to the risk of fire arising from the proposed development, the emissions that could be generated in the event of a fire and impact on human health and the reliability of the fire safety assessment undertaken by the first party. The adequacy and operation of the on site fire suppressions system proposed is questioned as is the availability of adequate off site fire services and the implications for the environment of the use of significant quantities of water in the event of a fire.

7.4.2. Firstly, with regard to the risk of fire arising at the site, the use of lithium ion batteries for storage clearly has a potential fire risk given the nature of the technology proposed to be use. Lithium ion batteries can give rise to issues of fire and explosion in circumstances where they are not properly stored or handled or are damaged in some way, and the risks set out in the document prepared by AIG and

cited by the appellants (copy attached with the appeal) are noted. It is however notable that the AIG document clearly identifies the risk of the use of lithium ion technology as being more significant where users are not familiar with the technology and are not energy specialists. As highlighted by the first party in their response to the grounds of appeal, this is not the case with the applicant in this case who is one of the leading renewable energy development companies operating in the Irish market. It should also be noted that the information supplied by the appellants and discussed in the AIG document do not relate to situations in which fires in battery storage developments of similar format to the proposed development have occurred.

7.4.3. Notwithstanding the above, it is evident that the risk of fire in the case of a development such as that proposed in this application is real and that there needs to be measures put in place to ensure that there are fire suppression and mitigation measures in place in the development. These issues were included in the request for further information issued by the Planning Authority and a significant amount of further information was submitted by the first party on these issues. Specifically, the response to further information submitted provides significant detail with regard to the testing and monitoring system proposed to be installed at the site, the design measures that have been incorporated including around the adequacy of the container structures and the spacing between units and the fire suppression system proposed to be installed which is to be a gas based system. Full details of the proposed fire suppression system are proposed to be submitted prior to the commencement of development and it should be noted that prior to operation, the developer will have to apply for and obtain a Fire Safety Certificate.

7.4.4. Details submitted by the applicant indicate that the development would be the subject of continuous remote monitoring and that the technology installed on site would be such that monitoring of individual cells would be possible to identify faults and that any such areas where issues are identified could be shut down pending an inspection by maintenance personnel. While the exact specification of the proposed battery storage units is not detailed, a commitment is provided that the technology used would be the most up to date at the time of commissioning of the site. It is also stated that any batteries installed would be certified to UL1973 which is the standard for batteries for use in stationary, vehicle auxiliary power and light rail applications.

7.4.5. In my opinion therefore, what falls to be determined in this application is that adequate consideration of fire risk has been undertaken and that, on the basis of the information presented, there is a reasonable basis to conclude that the risk of fire at the site is not excessive and that such a risk can be managed on site. On the basis of the information submitted with regard to the fire suppression system and the fact that the information submitted has been assessed and considered satisfactory by the Fire Officer of the council and the Tipperary Fire and Rescue Service, I consider that these requirements have been met in the development. Equipment to be installed will be the subject of continuous monitoring and the separation distance between the proposed development and the closest residential properties to the site (c.400 metres) is such that the risk of physical harm or negative health impacts arising on the limited number of residential properties that are in the vicinity of the site is very low.

7.4.6. I note the contention of the third party appellants that the proposed development would be contrary to the ***Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (SI No.209 of 2015)***. These regulations (the COMAH Regulations) implement the requirements of the SEVESO III Directive (2012/18/EU) and cover establishments that present a major accident hazard on the basis of the presence on site of dangerous substances in quantities that exceed specified thresholds. These thresholds are set out at Annex I of the regulations and a copy of the regulations including Annex I was appended by the third party appellants to the submission they made to the Planning Authority and is on file. The appellants contend that the nature of the proposed development is such that it would lead to the potential for a 'major accident' as defined in the regulations and that therefore the requirements of the regulations in terms of referral to the HSA and the application of land use planning restrictions in the form of buffer zones should apply. My reading of the regulations is that, in order to be applicable, the development must involve the on site storage of a hazardous substance as set out in Annex I to the regulations and which exceeds the specified threshold. No detail is provided by the appellants as to what material referenced in Annex I would be exceeded in the proposed development and from a reading of the Annex I cannot see a category of substance which would be clearly exceeded in the proposed development. The HSA website contains lists of registered upper and lower tier

SEVESO establishments, and a review of this list does not indicate any battery storage type developments that are currently identified as establishments for the purposes of the directive, and which would be the subject of the measures set out in the referenced regulations. On the basis of the available information therefore I do not consider that the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, 2015 cited by the appellants are relevant to the assessment of this case, however the Board may wish to refer the case to the Health and Safety Authority (HSA) as the competent authority in this area for a definitive determination.

7.4.7. The fact that the Fire Safety Assessment undertaken and submitted as part of the response to further information does not contain a detailed risk assessment is highlighted by the third party appellants, however the first party has stated that this will be undertaken as part of the Fire Safety Certificate application process and that the development will only be granted a Fire Safety Certificate, and therefore be able to operate, in the event that the risk assessment undertaken is deemed satisfactory by the Fire Authority. Similarly, while concerns regarding the details of the proposed on site, gas suppression fire system are raised by the third party appellants, details of this system will have to be submitted for the satisfaction of the Fire Officer in order for the development to be operational. On the basis of the information presented and available on file, I do not consider that there is a clear basis on which development should be refused on the basis of fire or explosion risk or that these risks and potential emissions from the development would have a likely negative impact on the amenity or safety of residential properties in the general vicinity of the site.

7.4.8. Regarding ***noise***, as part of the response to further information submitted by the first party, the results of a noise assessment were submitted to the Planning Authority. This assessment was based on a noise survey undertaken at three noise monitoring locations (NMLs) and evaluated the likely impact of the proposed development on 4 no. identified noise sensitive receptors (NSRs). It is noted that there are a number of additional NSRs in the general environs of the appeal site that are not included in the assessment, however from my observations none of these locations are located closer to the appeal site than locations the subject of analysis. The locations assessed are therefore in my opinion representative of the likely noise impacts at all

properties in the vicinity of the site. The results of the assessment clearly indicate that the predicted noise from the battery storage units and transformer (Max. 42dB(A) at 10 metres) when transmitted to the NSRs, would be significantly less than the background sound level at these locations. The degree of difference is estimated at between 10 and 14 dB(A) (see table 4.6 of the submitted assessment) and is such that I do not consider than any adverse impact on residential amenity by virtue of additional noise would arise. On this issue I also note that the submission on file from the HSE National Office for Environmental Health Services supports this conclusion and states that there is no basis to conclude that noise would be a public health issue during the operational phase of the development.

7.4.9. The third party appellants raise concerns with regard to the potential need for water to be used in the event of a fire, where this water would be sourced from and how would it be contained. As part of the response to further information the first party set out in some detail the proposed on site fire safety measures that are proposed to be installed at the site. These measures include design, comprising the batteries being stored within sealed steel containers and the separation of these containers from one another, and details of the on site fire identification and suppression system proposed. These physical measures are identified as being such that the issue of a '***thermal runway'*** or spread of fire from one cell to another as identified in th3 appellants submission can be successfully mitigated. On the basis of the information presented with regard to the layout I consider that this would be the case.

7.4.10. In addition to the physical design and layout, the submitted information sets out how batteries will be the subject of continuous remote monitoring and cells can be reduced power or cut off in the event that a fault is identified via the battery monitoring system (BMS). In the unlikely event that a fire still occurs, each of the battery storage units would be fitted with an on site fire suppression and management system that would include a system of alarms to inform maintenance staff of any issues and a clean agent fire suppression system utilising gas. No water would therefore be used in the on site fire suppression system. In the event that both the physical measures, monitoring and control and on site fire suppression systems were inadequate to control an incident there is a possibility that remote fire fighting units with water would be required. The surface where the units are proposed to be installed is proposed to be a permeable hardcore underlain by a

membrane and any fire water would percolate to ground with any excess being discharged via the cut off drain around the site to the windfarm drainage system. Given that there are no liquids or other contaminants proposed to be stored in the battery containers, the risk of ground and surface water contamination is considered to be very low. Similarly, the design of the transformer on site is not considered likely to result in ground or surface water pollution by virtue of the design incorporating the use ester oil or resin rather than mineral oils and the equipment being bunded. Overall, on the basis of the information presented, I would agree with the assessment of the environmental health service and consider that there is adequate protection of ground and surface waters if all mitigation measures set out in the application documentation are implemented.

7.4.11. Overall, having regard to the design and on site measures proposed to be incorporated, I am satisfied that the likelihood of external firefighting action being required is very low. On the basis of the information presented, I am also satisfied that the risk of pollution to ground and surface waters arising from any requirement for external firefighting activity at the appeal site would be very limited.

7.5. Other Issues

7.5.1. A ***construction traffic management plan*** is proposed to be submitted in advance of the proposed development. No new roads are required to facilitate the proposed development and access to the site has already been provided for the construction of the Garracummer windfarm. No issues with regard to access or construction traffic are therefore predicted to arise.

7.5.2. Construction is proposed to take 12-16 weeks to complete and the hours of construction are proposed to be restricted to between 08.00 and 19.00 hrs Monday to Saturday inclusive. An assessment of ***construction noise*** is undertaken in the submitted noise assessment and this indicates (section 4.3.1.1) that construction noise at all of the noise sensitive locations examined (NSR 1-4) would be below the normal daytime construction phase noise threshold of 65dB(A). Given this and the relatively short construction time period estimated it is not considered that the construction phase would have a significant impact on the amenity of properties in the vicinity.

7.5.3. The issue of ***soil disposal and ground stability*** is not addressed in detail in the submitted Environmental Report or other application documentation. As set out in the description of development, the creation of a level area for the installation of the battery storage and associated equipment will require the excavation of a significant amount of material and the extent of this is indicated on the Site Section Drawings shown on Drg No. C008. A rough calculation based on a 70 by 50 metre footprint and an average depth of 3.5 metres would indicate in excess of 12,000 cubic metres of material with soil to be disposed of off-site with a licenced contractor (see section 3.5 of Ecological Impact Assessment). Information presented in the environmental report indicates that the ground conditions in the immediate vicinity of the site do not comprise peat or any significant depth of peal. The risk to ground stability arising from the excavation and material storage aspects of the proposed development is not therefore considered to be significant.

7.5.4. Proposals for the ***decommissioning and reinstatement*** of the site are set out at section 4.6.2 of the Environmental report. These are noted and considered acceptable. In the event of a grant of permission it is recommended that a condition regarding site reinstatement would be attached by the Board. I note that condition No.4 of the Notification of Decision issued by the Planning Authority specifies that the permission shall be for a period of 30 years from the date of the commissioning of the development. The parent permission for the Garracummer windfarm (Ref. PL23. 215597) specifies at Condition No.2 that the permission is for a period of 25 years from the date of the order which was the 5th May, 2006. The windfarm therefore has permission up to May, 2031. The application documentation states that the lifespan of the proposed development is 15 years, however given that the term of the windfarm permission expires on 5th May 2031 it is considered appropriate that any permission for an energy storage facility, such as the proposal the subject of the current appeal, would be restricted to the same date.

7.5.5. With regard to ***ecology*** and the potential of the site to accommodate flora and fauna of significance, I note the contents of the ecological impact assessment submitted with the application and the fact that the conclusions of this report is based on a habitat survey and survey of the site for habitat suitable for notable species including bats, otter, and badger. The site comprises a mixture of cleared or bare ground, recolonising bare ground, buildings and artificial surfaces and recently felled

woodland. The area of the site where the majority of development is proposed is characterised by recently felled woodland. No features suitable for bats are present on site and the wider habitat is not good bat habitat. No suitable habitat for otter were observed and no badger setts or evidence of activity observed.

7.5.6. Regarding ***birds***, the site has been the subject of extensive surveys connected with the Garracummer windfarm covering the breeding and wintering seasons. No observations have been made in or directly adjacent to the appeal site and the overall number of sightings have been low, especially in the winter season (figures cited in Table 4.5 of the Ecological Impact Assessment. The existing habitat on the site is not suitable for either nesting or foraging by hen harrier. On the basis of the information presented and the design and scale of development proposed, it is considered that the impact of the proposed development on bird species and specifically hen harrier would not be significant.

7.5.7. There are a number of ***monuments*** recorded in the general vicinity of the appeal site. None of these are however located such that they would be the subject of direct or indirect impacts from the proposed development.

7.6. Appropriate Assessment - Screening

7.6.1. Compliance with Article 6(3) of the Habitats Directive

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

7.6.2. Background to the Application

The applicant has submitted a Natura Impact Statement that incorporates a screening assessment at section 6. This screening assessment does not include a clear AA Screening conclusion however Table 6.1 sets out the screening conclusion in respect of each of the qualifying interests in respect of each of the three European sites assessed on the basis that they are potentially impacted by the proposed development. The screening assessment undertaken at Table 6.1 concludes that

there is a potential for significant adverse effects to arise on the following European sites:

- Lower River Suir SAC
- Lower River Shannon SAC and
- Slievefelim to Silvermines Mountains SAC

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

7.6.3. **Screening for Appropriate Assessment – Test of Likely Significant Effects**

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

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

7.6.4. **Brief Description of the Proposed Development**

The applicant provides a description of the proposed development at Section 3 (Pages 5-10) of the submitted Natura Impact Statement and at Section 4 of the submitted Environmental Report. In summary, the development comprises the following elements:

- the installation of battery storage units on a site that overlaps with that of an existing operational windfarm (Garracummer Windfarm).
- the battery storage units are proposed to be housed in 18 no. container units that each have an area of c.30 sq, metres (12 metres in length by 2.5 metres

in width) and which have an overall height above ground level of c. 2.6 metres. The battery storage units proposed are proposed to each have a capacity of between 2.5 and 2.8 MW and the maximum overall capacity of the development would be 50MW.

- a control building with an overall height of 6.4 metres is proposed to be located between the container units and the windfarm access track. A transformer and a control building (pitched room of overall height 6.4 metres and approximately 130 sq. metres floor area) are also proposed to be located in this area.
- The development is stated to have a lifespan of 15 years and, on completion of this period, it is proposed that the development would be de commissioned and the site restored.
- Lighting and cctv is proposed to be installed in the area where the battery storage units are located is proposed to be provided by the use of 6 metre high light standards.
- To facilitate the development, it is proposed to create a level area measuring approximately 70 metres by 50 metres involving the excavation of the existing ground. The levelled construction area is proposed to be surrounded by a cut off drain that would connect with the existing Garracummer Windfarm surface water drainage system.
- Mitigation measures to be incorporated into the development are set out at sections 5.3.1 and 5.3.2 of the submitted Ecological Impact Assessment and in the submitted Environmental report under the headings of Water (6.3), Landscape and Visual (7.3.3) and Cultural Heritage (8.2). These measures include restriction on timings of site clearance works, the development of a CEMP, measures to protect against invasive species and to protect against spillages and measures to protect against discharges to watercourses including the use of silt fencing.

The development site is described in section 3.1 of the Natura Impact Statement. It is described as comprising a mixture of cleared or bare ground, recolonising bare ground, buildings and artificial surfaces and recently felled woodland. The area of

the site where the majority of development is proposed is characterised by recently felled woodland.

7.6.5. **Aspects of the Proposed Development Leading to Potential Likely Significant Effects**

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

- Construction related effects due to the excavation and storage of material on the site and the potential for material such as silt to be discharged to surface watercourses.
- Potential for construction related equipment to lead to contamination of ground or surface waters.
- The potential for the construction phase of the development to give rise to disturbance to important to bird species that are qualifying interests of SPA sites during the operational phase of the development,
- The potential for the proposed development to lead to habitat loss of important to bird species that are qualifying interests of SPA sites during the operational phase of the development,
- The potential for any fire incident at the site to lead to ground and / or surface water pollution that would have a negative impact on water quality within SACs in the vicinity of the site and which could thereby impact on conservation objectives of such sites.

7.6.6. **Submissions and Observations**

The submission received from the third party appellant in this cases contends that:

- the ecology report and the NIS rely on third party information that is not verified by the project ecologist / author.

- In the event of failure of the onsite fire suppression system to contain a fire incident leading to the use of water by the fire brigade, how would this water be contained without causing pollution.

- Case C404/09 Commission vs Spain (paragraph 100) makes it clear that an assessment under Art. 6(3) has to be contain complete precise and definitive findings and conclusions capable of removing all reasonable scientific doubt and cannot contain any gaps or lacunae. This is not the case with the submitted application / NIS and such that to grant permission would be ultra vires the EU Directive and Irish Planning law.

7.6.7. **European Sites**

The development site is not located within or in close proximity to any European sites. The closest European sites are as follows:

- The ***Lower River Shannon SAC*** (site code 002165) is located approximately 1.1km to the north west at the closest point.
- The ***Lower River Suir SAC*** (site code 002137) which is located c.2.35km to the south east of the appeal site at the closest point.
- The ***Slievefelim to Silvermines Mountains SPA*** (site code 004165) is located c.1.5km to the north west of the appeal site at the closest point.
- The ***Anglesey Road SAC*** (site code 002125) is located c.3.3km to the east of the appeal site at the closest point.
- The ***Phillipston Marsh SAC*** (site code 001847) which is located c.8.5km to the south east of the appeal site at the closest point.
- The ***Bollingbrook Hill SAC*** (site code 002124) which is located c.12.7km to the north of the appeal site at the closest point.
- The ***Keeper Hill SAC*** (site code 001197) which is located c.13km to the north west of the appeal site at the closest point.

7.6.8. **Potential Pathways**

Having regard to the aspects of the proposed development identified at paragraph 7.6.5 of this report above which have the potential to lead to likely significant effects on European sites, the following is an assessment of the potential pathways between the appeal site and the above identified European sites.

- The closest watercourse to the site is the Losset stream which is located c.200 metres to the east of the site at the closest point. The Losset stream flows in a south east direction for a distance of c.2.3km before it connects with the Multeen River which is part of the Lower River Suir SAC site. The source of the Losset stream that is located c.200 metres from the appeal site is approximately 30 metres downslope of the appeal site.
- The next closest watercourse to the appeal site is an unnamed stream that is located c.400 metres to the west of the appeal site and a further stream located c.650 metres to the west. (It is noted that section 3.2 of the submitted NIS states that the separation distance to this stream is c.270 metres). This stream connects with the Gortnageragh River which is part of the Lower River Shannon SAC approximately 1,150 metres downstream.
- The other surface water feature in the vicinity of the appeal site comprises the surface water drainage system that serves the existing Garracummer Windfarm. In the vicinity of the site, this system comprises a network of roadside drains that run north eastwards downslope towards the public road. At this point the windfarm drainage system connects with the roadside drainage network. At the time of inspection of the site, the roadside drains within and immediately adjacent to the connection with the drains along the public road were observed to be dry. From an inspection of the site and environs it is not completely clear where this roadside drain discharges to, however following the path of the local road south east, the road intersects with a tributary of the Losset stream at a point c.890 metres (by road) to the south east of the junction of the windfarm access road and the local road. The Losset stream flows in a south east direction before it connects with the Multeen River which is part of the Lower River Suir SAC site. The full

hydrological pathway between the appeal site and the Lower River Suir SAC is c.4.2km.

- Finally, in terms of pathways, the proposed development proposes that the battery storage units and ancillary equipment in the form of transformer and control building would be sited on an area of hardcore. The transformer is proposed to be located in a bunded area, however the balance of the levelled area of the site where development is proposed (approximately 73 metres by 50 metres) would have a permeable surface underlain by a geotextile layer that would enable any liquids discharged or spilled at the site to discharge to ground. Ground conditions in the area of the site comprise a locally important aquifer and a groundwater vulnerability rating of extreme.

7.6.9. **European Sites Potentially Impacted by the Proposed Development**

Having regard to the above identified aspects of the proposed development leading to potential emissions to the environment and pathways and using the source – pathway – receptor model, the following is the assessment of the potential for the proposed development to impact on the European sites identified at paragraph 7.6.7 above.

The Lower River Shannon SAC (site code 002165) is located approximately 1.1km to the north west at the closest point. Discharges generated during the construction phase in terms of storage of materials and discharges of sediment would have the potential to impact on this European site given the presence of an unnamed stream within c.400 metres of the appeal site, albeit that there is no direct surface hydrological connection with the site. In the event of fire, discharges from the battery units the use of fire suppression or firefighting equipment on the site would also have potential to impact on groundwater and potentially on this stream that is located downgradient of the appeal site. It is therefore considered that the proposed development is likely to have potentially significant effects on the Lower River Shannon SAC site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is required.

The ***Lower River Suir SAC*** (site code 002137) which is located c.2.35km to the south east of the appeal site at the closest point. Discharges generated during the construction phase in terms of storage of materials and discharges of sediment would have the potential to impact on this European site given the presence of the Losset Stream within c.200 metres of the appeal site, albeit that there is no direct surface hydrological connection with the site. In the event of fire, discharges from the battery units the use of fire suppression or firefighting equipment on the site would also have potential to impact on groundwater and potentially on the Losset Stream that is located downgradient of the appeal site. It is therefore considered that the proposed development is likely to have potentially significant effects on the Lower River Suir SAC site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is required.

The ***Slievefelim to Silvermines Mountains SPA*** (site code 004165) is located c.1.5km to the north west of the appeal site at the closest point. The qualifying interest for which there is a conservation objective identified for this site is the hen harrier and the upland nature of the appeal site comprises habitat which could potentially be used for foraging and breeding by this species. It is also noted that the presence of hen harrier in the environs of the Garracummer windfarm was noted during the assessment of that project. For these reasons, it is considered that the proposed development is likely to have potentially significant effects on the Slievefelim to Silvermines SPA site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is required.

The ***Anglesey Road SAC*** (site code 002125) is located c.3.3km to the east of the appeal site at the closest point. There is no potential surface water hydrological connection between the appeal site and this European site. While this European site is located at a significantly lower (greater than 100 metres) level than the appeal site, given the separation distance, the nature of the likely potential discharges from the proposed development and the intervening terrain in terms of levels and surface water features, it is not considered that there is a potential hydrological connection or pathway between the appeal site and this European site. For these reasons, it is considered that the proposed development is not likely to have potentially significant effects on the Anglesea Road SAC site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is not therefore required.

The ***Phillipston Marsh SAC*** (site code 001847) which is located c.8.5km to the south east of the appeal site at the closest point. Given the separation distance, the nature of the likely potential discharges from the proposed development and the intervening terrain in terms of levels and surface water features, it is not considered that there are any viable potential ground or surface water pathways between the appeal site and this European site. For these reasons, it is considered that the proposed development is not likely to have potentially significant effects on the Phillipston Marsh SAC site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is not therefore required.

The ***Bollingbrook Hill SAC*** (site code 002124) which is located c.12.7km to the north of the appeal site at the closest point. Given the separation distance, the nature of the likely potential discharges from the proposed development and the intervening terrain in terms of levels and surface water features, it is not considered that there are any viable potential ground or surface water pathways between the appeal site and this European site. For these reasons, it is considered that the proposed development is not likely to have potentially significant effects on the Bollingbrook Hill SAC site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is not therefore required.

The ***Keeper Hill SAC*** (site code 001197) which is located c.13km to the north west of the appeal site at the closest point. Given the separation distance, the nature of the likely potential discharges from the proposed development and the intervening terrain in terms of levels and surface water features, it is not considered that there are any viable potential ground or surface water pathways between the appeal site and this European site. For these reasons, it is considered that the proposed development is not likely to have potentially significant effects on the Keeper Hill SAC site and that a Stage 2 Appropriate Assessment of these effects on the integrity of the site is not therefore required.

7.6.10. **Qualifying Interests and Conservation Objectives of Sites Where Potentially Significant Effects Identified**

Lower River Shannon SAC (site code 002165)

The following qualifying interests are identified for this site:

- Sandbanks which are slightly covered by sea water all the time
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Coastal lagoons
- Large shallow inlets and bays
- Reefs
- Perennial vegetation of stony banks
- Vegetated sea cliffs of the Atlantic and Baltic coasts
- Salicornia and other annuals colonising mud and sand
- Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
- Mediterranean salt meadows (Juncetalia maritimi)
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
- Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae)
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
- Margaritifera margaritifera (Freshwater Pearl Mussel)
- Petromyzon marinus (Sea Lamprey)
- Lampetra planeri (Brook Lamprey)
- Lampetra fluviatilis (River Lamprey)
- Salmo salar (Salmon)

- Tursiops truncatus (Common Bottlenose Dolphin)
- Lutra lutra (Otter)

The conservation objectives for this site as set out in the site specific conservation objective document is to restore the favourable conservation condition of the relevant species or habitat having regard to a range of specified attributes and targets.

Lower River Suir SAC (site code 002137)

The following qualifying interests are identified for this site:

- Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
- Mediterranean salt meadows (Juncetalia maritimi)
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Old sessile oak woods with Ilex and Blechnum in the British Isles
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
- Taxus baccata woods of the British Isles
- Margaritifera margaritifera (Freshwater Pearl Mussel)
- Austropotamobius pallipes (White-clawed Crayfish)
- Petromyzon marinus (Sea Lamprey)
- Lampetra planeri (Brook Lamprey)
- Lampetra fluviatilis (River Lamprey)
- Alosa fallax fallax (Twaite Shad)
- Salmo salar (Salmon)
- Lutra lutra (Otter)

The conservation objectives for this site as set out in the site specific conservation objective document is to restore the favourable conservation condition of the relevant species or habitat having regard to a range of specified attributes and targets.

Slievefelim to Silvermines Mountains SPA (site code 004165)

The following qualifying interests are identified for this site:

- Hen Harrier (Circus cyaneus).

The conservation objective cited in the generic conservation objective document for this site is '*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA*.'

7.6.11. **Mitigation Measures**

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

7.6.12. **Screening Determination**

The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act, 2000 (as amended). Having carried out Screening for Appropriate Assessment of the project it has been concluded that the project individually, or in combination with other plans or projects, could have a significant effect on the Lower River Suir SAC, the Lower River Shannon SAC and the Slievefelim to Silvermines Mountains SPA in view of the conservation objectives of these sites and appropriate assessment is therefore required.

7.7. Appropriate Assessment

7.7.1. Introduction

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

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

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

The Habitats Directive deals with the conservation of natural habitats and of Wild Flora and Fauna throughout the EU. Article 6(3) of this directive requires that any plan or project not directly connected with or necessary for the management of the site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent is given.

In the case of the development the subject of this appropriate assessment, the proposed development is not directly connected to or necessary for the management of any European site and therefore is subject to the provisions of Article 6(3).

7.7.3. Following the screening process, it has been determined that Appropriate Assessment is required as it cannot be excluded on the basis of objective information and in the absence of mitigation, that the proposed development of a battery storage facility at Garracummer Windfarm individually or in combination with other plans or projects, will have a significant effect on the following European sites:

- The Lower River Shannon SAC, (site code 002165)
- The Lower River Suir SAC, (site code 002137)
- The Slievefelim to Silvermines Mountains SPA, (site code 004165)

The possibility of significant effects on other European sites has been excluded on the basis of objective scientific information. The following European sites have been screened out for the need for appropriate assessment.

- The Anglesey Road SAC (site code 002125)
- The Phillipston Marsh SAC (site code 001847)
- The Bollingbrook Hill SAC (site code 002124)
- The Keeper Hill SAC (site code 001197)

Measures intended to reduce or avoid significant effects were not considered in this screening process.

7.7.4. **The Natura Impact Statement**

The application included a NIS (Natura Impact Statement – Proposed Battery Storage Facility at Garracummer, Co. Tipperary, prepared by Malone O'Regan Environmental and dated November, 2019) which examines and assesses potential adverse effects of the proposed development on the following European sites:

- The Lower River Shannon SAC, (site code 002165)
- The Lower River Suir SAC, (site code 002137)
- The Slievefelim to Silvermines Mountains SPA, (site code 004165)

The applicant's NIS was prepared in line with current best practice guidelines and provides an assessment of the potential for the proposed development to give rise to disturbance to hen harrier (qualifying interest of the Slievefelim to Silvermines Mountains SPA) during the construction phase of the development and the potential impact on water quality during the construction phase of the development (given the

water quality sensitive species which are qualifying interests of the Lower River Shannon SAC and the Lower River Suir SAC).

The NIS concludes that the proposed battery storage facility and all associated site works, alone or in combination with other projects, will not adversely affect the integrity and conservation status of any of the qualifying interests of the Lower River Shannon SAC, the Lower River Suir SAC and the Slievefelim to Silvermines Mountains SPA.

7.7.5. **Appropriate Assessment of Implications of Proposed Development**

The submitted NIS includes an assessment of the potential adverse effects on the integrity of the three identified sites arising from disturbance to hen harrier (qualifying interest of the Slievefelim to Silvermines Mountains SPA) during the construction phase of the development and the potential impact on water quality during the construction phase of the development (given the water quality sensitive species which are qualifying interests of the Lower River Shannon SAC and the Lower River Suir SAC).

In addition to the above effects, as set out at 6.5.5 above in the Screening Assessment, I consider that the following aspects of the proposed development could also adversely affect the conservation objectives of the above sites.

- The potential for the proposed development to lead to habitat loss of important to bird species that are qualifying interests of SPA sites during the operational phase of the development,
- The potential for any fire incident at the site to lead to ground and / or surface water pollution that would have a negative impact on water quality within SACs in the vicinity of the site and which could thereby impact on conservation objectives of such sites.

The following sections considers the potential for these aspects of the proposed development to have an adverse effect on the integrity of the three identified European sites once mitigation measures designed to avoid or reduce such adverse effects are considered and assessed. .

7.7.6. **European Sites**

7.7.6.1 **The Slievefelim to Silvermines Mountains SPA, (site code 004165)**

A description of the site's conservation objectives and qualifying interests is set out at section 4.3 of the submitted NIS and at 7.6.10 of the screening assessment above.

The main aspects of the proposed development that could adversely affect the conservation objectives of the Slievefelim to Silvermines Mountains SPA are considered to be as follows:

- Disturbance to hen harrier during the construction phase of the development that would have a negative impact on foraging and breeding of this species leading to a adverse effect on the conservation objectives of the site.
- A loss of foraging or breeding habitat during the operational phase that would have a negative impact on foraging and breeding of this species leading to an adverse effect on the conservation objectives of the site.

As set out in section 5 of the submitted NIS, there have been a significant number of hen harrier surveys undertaken in connection with the Garracummer windfarm and which cover the location of the current appeal site. Specifically, Condition No.6 of the permission granted by An Bord Pleanala under ref. PL23.215597 required monitoring of the site during the construction period and at years 1, 2, 3, 4, 5, 10 and 15. Breeding season surveys have been undertaken for 2013, 2014, 2015, and 2017 and wintering surveys for the 2013/2014, 2014/2015, 2015/2016 and 2017/2018 periods. Full survey information is not presented as part of the NIS submitted; however Table 5.2 summarises the results of the above surveys. This table indicates that notable hen harrier activity has been observed in the general vicinity of the current appeal site, particularly in the summer breeding season surveys. The number of sightings on the windfarm site is however stated to be low and none of the observations recorded in Table 5.2 of the NIS are stated to have been recorded within or in immediate vicinity of the appeal site.

The elevation of the appeal site at over 300 metres OD and the predominant ground cover of forestry or recently felled forestry is identified as not being good habitat for wintering hen harrier. Notwithstanding the fact that the habitat within the site is sub

optimal for breeding of hen harrier, mitigation is proposed to reduce any such residual risk. Vegetation clearance work is proposed to be undertaken outside of the bird breeding season and in the event that any protected or notable species are identified during construction activity then construction would cease. An ornithologist is proposed to be retained during the breeding season to map any breeding locations in the vicinity of the site and no construction would be undertaken within 500 metres of any identified breeding locations.

In view of the sub optimal habitats for breeding hen harrier, and the fact that no sightings of birds on the appeal site have been recorded in the extensive hen harrier surveys undertaken in connection with the Gurracummer Windfarm, it is not considered that the development of the site as proposed would lead to a loss of hen harrier habitat such as would impact negatively on the conservation objectives of the site. Similarly, subject to the implementation of the mitigation referenced above, in particular regarding the timing of works and survey and prior identification and avoidance (500 metre buffer) of breeding sites, and having regard to the limited identification of hen harrier in the vicinity of the site in surveys undertaken connected with the Garracummer Windfarm, it is not considered that the proposed development would have an adverse effect on the integrity of the European site by virtue of disturbance during the construction phase of the proposed development.

Regarding ***in combination effects***, the proposed development has the potential to combine with the existing operational Garracummer Windfarm to have effects on the conservation objectives of the hen harrier as identified for the Slievefelim to Silvermines Mountains SPA site. As discussed above, by virtue of the nature of the existing habitat in terms of ground cover and elevation, the results of the surveys undertaken in the vicinity of the site and the mitigation measures proposed to ensure that disturbance to breeding hen harrier is minimised as far as possible, adverse effects on the integrity of the site are not predicted to arise. The windfarm development was permitted on foot of an appropriate assessment and a conclusion that adverse effects on the integrity of the site were not likely to arise and survey results since the development of the windfarm indicate that hen harrier activity in the immediate vicinity of the appeal site is limited. Therefore, on the basis of the available information regarding the likely impact of the proposed development and the impact of the existing Garracummer Windfarm on the conservation objectives of

the Slievefelim to Silvermines Mountains SPA site (hen harrier), no significant in combination effects are considered likely to arise.

Following the appropriate assessment and the consideration of the mitigation measures, I am able to conclude with confidence that the proposed development would not adversely affect the integrity of the Slievefelim to Silvermines Mountains SPA site in view of the conservation objectives of the site. This conclusion has been based on a complete assessment of the project alone and in combination with plans and projects.

7.7.6.2 **The Lower River Shannon SAC, (site code 002165)**

A description of the site's conservation objectives and qualifying interests is set out at section 4.1 of the submitted NIS and at 7.6.10 of the screening assessment above.

The main aspects of the proposed development that could adversely affect the conservation objectives of the Lower River Shannon SAC are considered to be as follows:

- Potential impact on water quality during the construction phase leading to an impact on qualifying interests that are sensitive to water quality.
- The potential for any fire incident at the site to lead to ground and / or surface water pollution that would have a negative impact on water quality within SACs thereby impacting on qualifying interests of such sites that are sensitive to changes in water quality.

Hydrological Pathway During Construction

The closest hydrological connection to the appeal site is an unnamed stream that is located c.400 metres to the west of the appeal site and a further stream located c.650 metres to the west of the site, (It is noted that section 3.2 of the submitted NIS states that the separation distance to this stream is c.270 metres). The heads of these streams are located at points that are between 30 and 40 metres lower than that of the appeal site. These streams connect with the Gortnageragh River which is

part of the Lower River Shannon SAC approximately 1,150 metres downstream. There is therefore potential for spillages during construction or inappropriately stored materials to be discharged to these watercourses and to have an adverse effect on water quality within the SAC leading to an impact on the integrity of the site. The potential for such impacts to arise is considered to be reduced by the significant overland separation and resulting buffering capacity between the proposed construction / works area and the head of these streams / watercourses and by the significant hydrological distance between the closest part of the watercourse and the SAC, (c.1150 metres). In addition, species that are sensitive to water quality such as freshwater pearl mussel which is a conservation objective of the site, is recorded in the conservation objectives document as being recorded on a tributary of the main river channel downstream of the application site and therefore not such that it could be impacted by any potential discharges. Lamprey and salmon species are indicated in the Site Synopsis as occurring at lower reaches of the Shannon and the appeal site is separated by c.45km from the main Shannon River channel at the connection with the Mulkear River. Extensive mitigation is proposed to protect against discharges from the site during the construction phase of the development and these are set out at section 7.2 of the NIS. These mitigation measures include the following:

- Use of spill kits and measures to ensure any spills are cleaned up as soon as possible,
- Measures for the management of stockpiled materials. It is noted that the significant volume of material that will be excavated is such that it will not be reused on site and will be removed on site,
- The use of silt traps,
- Measures for the storage of fuels and other contaminants on site,
- Protocols and measures around the use of concrete on site.

In view of the significant separation distance between the proposed works / construction area and the closest surface watercourse, the very significant separation distance between these closest watercourses and the locations identified within the SAC site where species sensitive to water quality are indicated as being located and to the mitigation measures proposed to be incorporated on the site to

avoid discharges of construction related contaminants from the site, the construction phase of the proposed development would not have an adverse effect on the integrity of the site having regard to the conservation objectives of the site.

Potential Impacts Arising from Fire on Site During the Operational Phase

The nature of the proposed development incorporating lithium ion battery technology is such that in the absence of mitigation there is a potential for fire risk and therefore potential contamination of surface and groundwaters and to air arising from a fire event. Extensive mitigation measures to protect against the potential for and impact of a fire event have been submitted by the applicant and are on file and specifically in the response to further information received by the Planning Authority on 25th June, 2020. It is noted that the potential impact of the proposed development on European sites arising from fire risk and proposals for the treatment of fire risk was not specifically addressed in the submitted NIS.

In the response to further information submitted, the applicants submitted details of the proposed fire mitigation measures to be incorporated on site. These included design and on site mitigation. The main measures proposed include the following:

- The lithium ion battery units are proposed to be installed within steel shipping containers that will be adapted for use. The battery units will not therefore be exposed to the elements and the steel containers provide a good element of fire resistance and the required cooling / ventilation of the units installed. Smoke and heat detectors will be installed. .
- The layout of the containers is such that there is proposed to be a minimum separation of three metres between units containing batteries. This separation is such that the risk of spread from one unit to another, and the process of thermal bridging, would be reduced by design mitigation incorporated into the development.
- The application documentation sets out how the applicant is an experienced renewable energy operator and that they would incorporate best practice in the handling and transportation of the battery units.

- That testing of the battery units and associated equipment would be undertaken on site prior to commissioning of the development.
- An on-site battery management system (BMS) is proposed to be installed and this system could be monitored and activated remotely via a SCADA system. The battery management system is stated to be able to monitor the installed batteries and detect potential faults with the ability to reduce the flow of electricity into the relevant unit or even to shut down the relevant battery unit.
- In the unlikely event that there is a battery fault and the BMS does not operate properly and a fire occurs then each battery unit / container is proposed to be fitted with a gas based fire suppression system. While the exact detail of such a system has to be the subject of agreement and specification as part of the Fire Safety certificate application process, the technology for such gas suppression systems is well established and the use of such as system would not lead to the discharge of liquids from the battery storage units.

From the information presented, the design, installation, monitoring and on site fire protection measures proposed to be incorporated into the development are such that the risk of fire on site is low. Any activation of the on site fire suppression system would not in itself lead to any emissions that would be capable of discharge to ground or surface waters. The level of risk is such that it is in my opinion a hypothetical one and, referring back to the relevant test for screening, not such that there is in my opinion a reasonable likelihood of significant effects on the Lower River Shannon SAC site arising.

Notwithstanding this conclusion, the following is an assessment as to what would happen in the very unlikely event that all of the above design and on site mitigation were to fail and firefighting trucks / equipment was required to be brought to the site. If off site firefighting equipment was required, it is likely that water would be used to cool the fire and therefore there is a risk of discharge of water to ground or overland to surface watercourses. There are a number of mitigations that are relevant to this potential affect. Firstly, the housing of the battery units in a fire resistant container would mitigate the risk of pollutants contaminating the fire suppressant water used on site and reaching ground or surface waters. Secondly, the design of the area

where the storage units are proposed to be located incorporates a hardcore area underlain by geotextile material. Any discharges of fire water would therefore be contained by the geotextile layer and would be diverted to a cut off drain that is proposed to be installed around the area where the battery units are to be installed. This cut off drain would connect to the existing windfarm surface water drainage system and discharge off site to the surface water drainage network adjoining the public road to the north east of the site. This roadside drainage appears to connect with the Losset stream c.900 metres from the site access and flows in a south east direction before it connects with the Multeen River which is part of the Lower River Suir SAC site. The potential for such an event to have an adverse effect on the integrity of this SAC is considered in the section of this Appropriate Assessment below specifically relating to the Lower River Suir SAC site.

Regarding in ***combination effects***, the proposed development has the potential to combine with the Garracummer Windfarm to have effects on the conservation objectives of the Lower River Shannon SAC site. This windfarm is however operational, construction works have concluded, and the development is not the subject of any emissions to surface or groundwaters and therefore such no emissions from the development are therefore considered likely to arise. Therefore, on the basis of the available information regarding the likely impact of the proposed development and the impact of the existing Garracummer Windfarm on the conservation objectives of the Lower River Shannon SAC site, no significant in combination effects are considered likely to arise.

Following the appropriate assessment and the consideration of the mitigation measures, I am able to conclude with confidence that the proposed development would not adversely affect the integrity of the Lower River Shannon SAC site in view of the conservation objectives of the site. This conclusion has been based on a complete assessment of the project alone and in combination with plans and projects.

7.7.6.3 **The Lower River Suir SAC, (site code 002137)**

A description of the site's conservation objectives and qualifying interests is set out at section 4.2 of the submitted NIS and at 7.6.10 of the screening assessment above.

The main aspects of the proposed development that could adversely affect the conservation objectives of the Lower River Suir SAC are considered to be as follows:

- Potential impact on water quality during the construction phase leading to an impact on qualifying interests that are sensitive to water quality.
- The potential for any fire incident at the site to lead to ground and / or surface water pollution that would have a negative impact on water quality within SACs thereby impacting on qualifying interests of such sites that are sensitive to changes in water quality.

Hydrological Pathway During Construction

The closest hydrological connection to the appeal site is the Losset stream which is located c.200 metres to the east of the site at the closest point. The Losset stream flows in a south east direction for a distance of c.2.3km before it connects with the Multeen River which is part of the Lower River Suir SAC site. The source of the Losset stream that is located c.200 metres from the appeal site is approximately 30 metres downslope of the appeal site.

There is therefore potential for spillages during construction or inappropriately stored materials to be discharged to the Losset stream to have an adverse effect on water quality within the Lower River Suir SAC leading to an impact on the integrity of the site.

The potential for such impacts to arise is considered to be reduced by the significant overland separation and resulting buffering capacity between the proposed construction / works area and the Losset Stream and by the significant hydrological distance between the closest part of the watercourse and the SAC, (c. 2.3km). In addition, species that are qualifying interests of the site and which are sensitive to water quality such as freshwater pearl mussel, are recorded in the conservation objectives document as being recorded on a tributary of the main river channel

downstream of the application site (Clodiagh catchment – see Map 7 of the NPWS Conservation Objectives document) and therefore not such that it could be impacted by any potential discharges. Recorded locations of white clawed crayfish are identified as being a further c.6km downstream of the point where the Losset Stream joins with the Multeen River within the SAC and therefore the hydrological connection between the appeal site and the nearest point of the SAC with this surface water drainage connection is in excess of 8km. . Extensive mitigation is proposed to protect against discharges from the site during the construction phase of the development and these are set out at section 7.2 of the NIS. These mitigation measures include the following:

- Use of spill kits and measures to ensure any spills are cleaned up as soon as possible,
- Measures for the management of stockpiled materials. It is noted that the significant volume of material that will be excavated is such that it will not be reused on site and will be removed on site,
- The use of silt traps,
- Measures for the storage of fuels and other contaminants on site,
- Protocols and measures around the use of concrete on site.

In view of the significant separation distance between the proposed works / construction area and the closest surface watercourse, the very significant separation distance between these closest watercourses and the locations identified within the SAC site where species sensitive to water quality are indicated as being located and to the mitigation measures proposed to be incorporated on the site to avoid discharges of construction related contaminants from the site, the construction phase of the proposed development would not have an adverse effect on the integrity of the site having regard to the conservation objectives of the site.

Potential Impacts Arising from Fire on Site During the Operational Phase

The nature of the proposed development incorporating lithium ion battery technology is such that in the absence of mitigation there is a potential for fire risk and therefore potential contamination of surface and groundwaters and to air arising from a fire event. Extensive mitigation measures to protect against the potential for and impact of a fire event have been submitted by the applicant and are on file and specifically in the response to further information received by the Planning Authority on 25th June, 2020. It is noted that the potential impact of the proposed development on European sites arising from fire risk and proposals for the treatment of fire risk was not specifically addressed in the submitted NIS.

In the event of a fire on site, there is potential for the battery units to emit contaminants to the air and also to discharge contaminants to the ground if the battery units were to burn out. In the response to further information submitted, the applicants submitted details of the proposed fire mitigation measures to be incorporated on site. These included design and on site mitigation. The main measures proposed include the following:

- The lithium ion battery units are proposed to be installed within steel shipping containers that will be adapted for use. The battery units will not therefore be exposed to the elements and the steel containers provide a good element of fire resistance and the required cooling / ventilation of the units installed. Smoke and heat detectors will be installed. .
- The layout of the containers is such that there is proposed to be a minimum separation of three metres between units containing batteries. This separation is such that the risk of spread from one unit to another, and the process of thermal bridging, would be reduced by design mitigation incorporated into the development.
- The application documentation sets out how the applicant is an experienced renewable energy operator and that they would incorporate best practice in the handling and transportation of the battery units.
- That testing of the battery units and associated equipment would be undertaken on site prior to commissioning of the development.

- An on-site battery management system (BMS) is proposed to be installed and this system could be monitored and activated remotely via a SCADA system. The battery management system is stated to be able to monitor the installed batteries and detect potential faults with the ability to reduce the flow of electricity into the relevant unit or even to shut down the relevant battery unit.
- In the unlikely event that there is a battery fault and the BMS does not operate properly and a fire occurs then each battery unit / container is proposed to be fitted with a gas based fire suppression system. While the exact detail of such a system has to be the subject of agreement and specification as part of the Fire Safety certificate application process, the technology for such gas suppression systems is well established and the use of such as system would not lead to the discharge of liquids from the battery storage units.

From the information presented, the design, installation, monitoring and on site fire protection measures proposed to be incorporated into the development are such that the risk of fire on site is low. Any activation of the on-site fire suppression system would not in itself lead to any emissions that would be capable of discharge to ground or surface waters. The level of risk is such that it is in my opinion a hypothetical one and, referring back to the relevant test for screening, not such that there is in my opinion a reasonable likelihood of significant effects on the Lower River Shannon SAC site arising. Notwithstanding this conclusion, the following is an assessment as to what would happen in the very unlikely event that all of the above design and on site mitigation were to fail and firefighting trucks / equipment was required to be brought to the site.

If off site firefighting equipment was required, it is likely that water would be used to cool the fire and therefore there is a risk of discharge of water to ground or overland to surface watercourses. There are a number of mitigations that are relevant to this potential affect. Firstly, the housing of the battery units in a fire resistant container would mitigate the risk of pollutants contaminating the fire suppressant water used on site and reaching ground or surface waters. Secondly, the design of the area where the storage units are proposed to be located incorporates a hardcore area underlain by geotextile material. Any discharges of fire water would therefore be

contained by the geotextile layer and would be diverted to a cut off drain that is proposed to be installed around the area where the battery units are to be installed. This cut off drain would connect to the existing windfarm surface water drainage system and discharge off site to the surface water drainage network adjoining the public road to the north east of the site. This roadside drainage appears to connect with the Losset stream c.900 metres from the site access and flows in a south east direction before it connects with the Multeen River which is part of the Lower River Suir SAC site. The full hydrological pathway between the appeal site and the Lower River Suir SAC is c.4.2km. Separation distances in terms of a hydrological pathway to species that are qualifying interests of the site where the conservation objectives would be negatively impacted by a deterioration in water quality are in excess of this distance, with White Clawed Crayfish recorded at locations c.6km further downstream of the point where the Losset River joins the Multeen River within the SAC (see Map 7 of the NPWS Conservation Objectives document). Recorded locations of Freshwater Pearl Mussel are in the Clodiagh catchment, which is not on the main river channel downstream of the proposed development and not therefore likely to be impacted by the proposal.

Given the low level of residual risk identified after on site design and firefighting mitigation measures are taken into account, to the containment of any fire water on site and discharge via the on-site surface water drainage system and to the significant length of hydrological connection between the site and any known locations of species of qualifying interest for which the site is designated, it is not considered that this aspect of the proposed development would have an adverse effect on the integrity of the Lower River Suir SAC site in the light of its conservation objectives.

Regarding in ***combination effects***, the proposed development has the potential to combine with the Garracummer Windfarm to have effects on the conservation objectives of the Lower River Suir SAC site. This windfarm is however operational, construction works have concluded, and the development is not the subject of any emissions to surface or groundwaters and therefore such no emissions from the development are therefore considered likely to arise. Therefore, on the basis of the available information regarding the likely impact of the proposed development and the impact of the existing Garracummer Windfarm on the conservation objectives of

the Lower River Suir SAC site, no significant in combination effects are considered likely to arise.

Following the appropriate assessment and the consideration of the mitigation measures, I am able to conclude with confidence that the proposed development would not adversely affect the integrity of the Lower River Suir SAC site in view of the conservation objectives of the site. This conclusion has been based on a complete assessment of the project alone and in combination with plans and projects.

7.7.7. Appropriate Assessment Conclusion

The proposed battery storage facility at the Garracummer windfarm development has been considered in light of the assessment requirements of sections 177U and177V of the Planning and Development Act, 2000 as amended.

Having carried out screening for appropriate assessment of the project, it was concluded that the it may have a significant effect on the following European sites:

- The Lower River Shannon SAC, (site code 002165)
- The Lower River Suir SAC, (site code 002137)
- The Slievefelim to Silvermines Mountains SPA, (site code 004165)

Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of those sites in light of their conservation objectives.

Following an appropriate assessment, it has been determined that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the Lower River Shannon SAC, the Lower River Suir SAC, or the Slievefelim to Silvermines Mountains SPA, in view of the conservation objectives of these sites.

8.0 **Recommendation**

8.1. Having regard to the above, it is recommended that permission be granted based on the following reasons and considerations and subject to the attached conditions:

9.0 **Reasons and Considerations**

Having regard to:

(a) European and national policies to increase the proportion of energy that is generated from alternative, indigenous and renewable energy sources including wind and the minimisation of emissions of greenhouse gases as set out in the Renewable Energy Directive 2009/28/EC and the National Climate Action Plan and the National Planning Framework,

(b) the policies set out in the Regional Spatial and Economic Strategy for the Southern Region,

(c) the policies of the planning authority as set out in the South Tipperary County Development Plan 2009 (as extended and varied),

(d) the provisions of the Renewable Energy Strategy for County Tipperary 2016,

(e) the nature of the proposed development that comprises infrastructure that facilitates the increased penetration of renewable energy to the national grid,

(f) the distances of the proposed development to dwellings or other sensitive receptors,

(g) the nature and scale of the proposed development, and the contents of the Environmental Report, Ecological Impact Statement, Natura Impact Statement, and further information submitted by the applicant,

(h) the range of mitigation measures set out in the documentation received, including the Environmental Report, Ecological Impact Statement, Natura Impact Statement, and further submissions from the Applicant to the Board in the course of the appeal,

(i) the likely post mitigation emissions to the environment from the proposed development at construction and operational phases, the separation distance from

the site of the proposed development to sites designated as part of the Natura 2000 network, and the nature of the connections between them,

(j) the topography and character of the landscape of the area, and the character of the landscape through which the battery storage facility would be provided, and

(k) the planning history of the site, and the pattern of existing and permitted development in the area,

it is considered that, subject to compliance with the conditions set out below, that the proposed development:

- would be in accordance with national and regional policy on wind energy, wind energy infrastructure and the facilitation of renewable energy projects,
- would be in accordance with the provisions of the South Tipperary County Development Plan, 2009, including the policies relating to wind energy, and the protection of landscapes and scenic amenity,
- would not seriously injure the visual amenities of the area, or have a significant negative impact on the landscape,
- would not seriously injure the amenities or depreciate the value of properties in the vicinity of the site,
- would not give rise to a risk of pollution,
- would not give risk to a significant fire hazard or risk of explosion,
- would be acceptable in terms of traffic safety and convenience, and
- would not be prejudicial to public health.

The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

10.0 **Conditions**

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars submitted on the 25th day of June 2020, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.
Reason: In the interest of clarity.

2. All mitigation measures identified in the Environmental Report, Natura Impact Statement and Ecological Impact Statement and other plans and particulars submitted with the application shall be complied with in the development.
Reason: In the interests of clarity and the protection of the environment.

3. This permission shall be for a period of 10 years from the date of this order. The battery storage units and all related infrastructure shall then be removed from the site unless, prior to the end of the appropriate period, planning permission for their retention shall have been granted. .
Reason: To make the period of the permission consistent with that of the operational Garracummer Windfarm and to enable the impact of both developments to be reassessed, having regard to changes in technology over the period of the permission.

4. Prior to the commencement of development, details of all external finishes to the battery storage containers and control building shall be submitted for the written agreement of the planning authority.
Reason: To protect the visual amenities and landscape quality and character of the area.

5. Permitted CCTV and lighting on site shall be sited so as to face into the site and shall not be sited so as to face towards the public road or third party lands. Details of the location and specification of this equipment shall be submitted to the Planning Authority for written agreement prior to the commencement of development.
Reason: In the interests of traffic safety and visual and residential amenity.

6. Soil, subsoil and rock excavated during construction shall not be left stockpiled on site following completion of works. Details of treatment of stockpiled materials shall be submitted to and agreed in writing with the planning authority prior to commencement of development.
Reason: In the interest of the visual amenities of the area.

7. The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including hours of working, noise and dust management measures, off-site disposal of construction/demolition waste, measures for the storage of oils and fuels on site, and measures for the protection of ground and surface waters.
Reason: In the interests of public safety and residential amenity.

8. On full or partial decommissioning of the permitted battery storage development or if the wind farm ceases operation for a period of more than one year, the battery storage units, control building and transformer shall be removed within three months and the site reinstated as detailed at section 4.6.2 of the Environmental Report received by the Planning Authority on 14th January, 2020.
Reason: To ensure satisfactory reinstatement of the site upon cessation of the project.

9. The developer shall pay to the planning authority a financial contribution of €16,111.50 (sixteen thousand one hundred and eleven euro and fifty cent) in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. The application of any indexation required by this condition shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine.
Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

Stephen Kay
Planning Inspector

16th March, 2021.