

Rigged Hill Windfarm Repowering

Further Environmental Information Addendum No. 2 to Environmental Statement

Chapter 3 – Development Description

November 2020



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Chapter 3 – Development Description

1 Non-Technical Summary

- An application for the Rigged Hill Windfarm Repowering (the "Development") was submitted to Causeway Coast & Glens Borough Council ("CC&GBC") in July 2019, accompanied by an Environmental Statement (ES). A consultation response was issued on 23rd September 2020 by the Northern Ireland government Department for Agriculture, Environment and Rural Affairs – Northern Ireland Environment Agency- Natural Environment Division (NIEA-NED).
- 2. This Addendum to the ES is the second addendum, with the previous one providing responses to requests for information from the Dfl Rivers (in May 2020, which added to the ES Chapter 7 Hydrology, Hydrogeology, Geology, Soils and Peat).
- 3. The large majority of what has been provided here is clarification of the material provided in the ES; either addressing points of procedure or providing detail that does not alter the conclusions of the assessment of environmental effects.
- 4. The key aspect of the NIEA-NED consultation response was:
 - "Further details and clarification to be provided in a revised draft Habitat Management Plan (HMP) or addendum regarding the proposed grazing regime, cessation of all damaging management activities, extended monitoring period and confirmation of landowner agreement with all measures within the revised HMP'.
- 5. Further to the consultation response, in consultation with NIEA-NED, additional clarification was requested in respect of:
 - The assessment of the proposed electrical connection of the Development to the national grid; and
 - The proposed operational lifetime of the Development.

1.1 Addendum to the Development Description

- 6. The Habitat Management Plan (HMP) has been amended, with version 4 included in this Addendum as Technical Appendix A3.2. The main changes proposed in the HMP follow consultation with NIEA-NED and are:
 - Commitments are made to ensure that grazing levels are in line with guidance on bog restoration, rather than ensuring
 grazing levels were the same as currently;
 - Commitments are made to place further restrictions on agricultural activities in the Habitat Management Area, with a list
 of prohibited activities designed to improve bog restoration; and
 - The vegetation and hydrological monitoring schedule has been extended from year 9 to year 20, with monitoring proposed every 10 years thereafter throughout the operational phase, with annual visual checks.

- The final form of electrical connection of the Development to the local or national grid, to allow the export of electricity from the Development, is unknown at the time of writing, and this is necessarily the case as a result of the procedural arrangements for connecting an independent electricity generating station to the electrical grid via application to the grid operator. The assessments in the ES for the Development therefore cannot take into consideration the effects of the grid connection. When the application for the grid connection is made, the effects of it will be assessed at that stage. Technical Appendix A3.3 sets this out in more detail (the memo in the Appendix was drafted for Corkey Windfarm Repowering, but applies equally to Rigged Hill Windfarm Repowering). This is a point of procedural clarification rather than additional environmental information.
- The planning permission in place for the Operational Rigged Hill Windfarm is not time limited; it has permission to be operated in perpetuity. The application for the Development is made on the same basis; with effects assessed as permanent but reversible on decommissioning, which would occur depending on the technical capability of the Development. Historically, time limits on the operational phase of many renewable energy developments have been placed through planning conditions. This has prematurely curtailed generation of renewable energy, or led to additional administrative burden, cost and uncertainty through having to apply to extend the planning permission. This is not in line with current trends elsewhere in the UK, however; this is set out in more detail in the informative provided in Technical Appendix A3.4 (the memo in the Appendix was drafted for Corkey Windfarm Repowering, but applies equally to Rigged Hill Windfarm Repowering). The Operational Rigged Hill Windfarm has operated since 1995 (25 years to date) and it continues to operate, and there is no restriction placed on its operational life span in its planning permission. It will continue to operate until the Development is constructed, or until the turbines can no longer be maintained. At this point, driven by technical requirements, the Operational Rigged Hill Windfarm would be decommissioned. This is the model proposed for the Development, and that which has been assessed in the ES. This is a point of clarification of approach rather than additional environmental information.

1.2 Conclusions

9. No changes to the conclusions of the ES are applicable as a result of this information.

2 Introduction

- 10. An application for the Rigged Hill Windfarm Repowering (the "Development") was submitted to Causeway Coast & Glens Borough Council ("CC&GBC") in July 2019, accompanied by an Environmental Statement. A consultation response was issued on 23rd September 2020 by the Northern Ireland government Department for Agriculture, Environment and Rural Affairs – Northern Ireland Environment Agency- Natural Environment Division (NIEA-NED).
- 11. This Addendum to the ES is the second addendum, with the previous one providing responses to requests for information from Dfl Rivers (in May 2020, which added to the ES Chapter 7 Hydrology, Hydrogeology, Geology, Soils and Peat).
- 12. The key aspect of the NIEA-NED consultation response was:
 - "Further details and clarification to be provided in a revised draft Habitat Management Plan (HMP) or addendum
 regarding the proposed grazing regime, cessation of all damaging management activities, extended monitoring period
 and confirmation of landowner agreement with all measures within the revised HMP".
- 13. Further to the consultation response, in consultation with NIEA-NED, additional clarification was requested in respect of:
 - The assessment of the proposed electrical connection of the Development to the national grid; and
 - The proposed operational lifetime of the Development.
- Further consultation was carried out in face to face (virtual) meetings with NIEA-NED staff on 3rd July and 11th September 2020 and CC&GBC staff on 31st July 2020 to discuss these issues and ensure that the material presented in this Addendum addressed as far as practicable the issues raised. All matters were agreed, subject to:
 - Confirmation that landowners are obligated to fulfil the measures laid out in the Draft HMP (confirmation of this has been
 provided directly to NED, separately to this Addendum); and

- Confirmation by Dfl's Departmental Solicitors' Office of the appropriateness of the treatment of the grid connection (being sought directly by NED, separately to this Addendum).
- At the meeting on 3rd July 2020 NED raised a number of queries in relation to consideration of hydrological impacts to the acid flush area identified in the ES, and peat depths along the proposed infrastructure route. NED has received clarification and reassurance from the agent regarding these concerns and is content that appropriate precautions are in place to safeguard the existing hydrological inputs and chemical status of the flush area through granting the Ecological Clerk of Works influence in the final design and implementation of drainage plans in this area.
- ^{16.} Section 3 of this Addendum addresses comments on the Habitat Management Plan (HMP), the grid connection and potential restrictions on the operational life of the Development.

3 Addendum to ES Chapter 3: Development Description

- 17. Chapter 3 of the ES provided a description of the Development and formed the basis of the assessments presented within Chapters 6 to 14 of the ES. It provided details of the decommissioning and construction, and operational phases of the Development. Chapter 3 of the ES remains appropriate in its original form; this Addendum does not alter any text in that chapter.
- Brief commentary below, supported by the three Technical Appendices, addresses the NIEA-NED concerns relating to the Habitat Management Plan (HMP), the grid connection and potential planning permission restrictions on the operational life of the Development.
- ^{19.} This Chapter of the ES is supported by the following Technical Appendices:
 - Technical Appendix A3.2: Draft Habitat Management Plan (Draft HMP) version 4;
 - Technical Appendix A3.3: Explanatory Note on Grid Connections; and
 - Technical Appendix A3.4: Explanatory Note on Restricting the Operational Life by Planning Condition.

3.1 Draft HMP Revision

- ^{20.} A revised version (v4) of the Draft HMP is provided in Technical Appendix A3.2. This replaces the version of the same document provided with the ES.
- 21. The changes made in this version follow consultation with NIEA-NED and are, in summary:
 - Commitments are made in Section 6.8.2 to ensure that grazing levels are in line with guidance on bog restoration, rather than ensuring grazing levels were the same as currently;
 - Commitments are made in Section 6.8.1 and 6.9 to place further restrictions on agricultural activities in the Habitat Management Area, with a list of prohibited activities designed to improve bog restoration; and
 - The vegetation and hydrological monitoring schedule has been extended from year 9 to year 20, with monitoring
 proposed every 10 years thereafter throughout the operational phase, with annual visual checks;
- 22. The effect of these changes on ecology requires no changes to the assessment of effects presented in the original ES.

3.2 Grid Connection

- ^{23.} Section 3.5.6 of Chapter 3 of the ES described on-site cabling, the on-site substation and referred to a potential grid connection route for off-site connection. This Addendum does not alter any of that text, which remains appropriate.
- 24. An off-site grid connection, whilst required for the Development to export electricity, is not, and cannot be, part of the Development, because of the procedural arrangements for connecting an independent electricity generating station to the electrical grid via application to the grid operator. This aspect necessarily has to follow consent for the Development. Until

that time, the nature, destination and route of the grid connection remains unknown. At that time, the environmental impacts of the proposed connection will be assessed in accordance with relevant law, and these would include cumulative developments which would include the Development. The ES therefore presented as much assessment of the grid connection as is practicable at this time. Technical Appendix A3.3 expands on these issues (the memo in the Appendix was drafted for Corkey Windfarm Repowering, but applies equally to Rigged Hill Windfarm Repowering). This is a point of procedural clarification rather than additional environmental information.

3.3 Operational Life

- 25. Section 3.9 of Chapter 3 of the ES states that "no time limit on the operational lifespan of the Development has been assumed for the purposes of this assessment". Decommissioning of the Development is proposed following the end of the operational phase, however, and the operational life is not assumed to be un-ending. Rather, no specific time limit has been assumed. No changes to this approach are proposed in this Addendum.
- 26. Historically, time limits on the operational phase of many renewable energy developments have been placed through planning conditions. This has prematurely curtailed generation of renewable energy, or led to additional administrative burden, cost and uncertainty through having to apply to extend the planning permission. This is not in line with current trends elsewhere in the UK, however; this is set out in more detail in the informative provided in Technical Appendix A3.4. This is a point of clarification of approach rather than additional environmental information.
- 27. The planning permission in place for the Operational Rigged Hill Windfarm is not time limited; it has permission to be operated in perpetuity. It has operated since 1995 (25 years to date) and it continues to operate. It will continue to operate until the Development is constructed, or until the turbines can no longer be maintained (as set out in Technical Appendix A3.4, noting that the memo in the Appendix was drafted for Corkey Windfarm Repowering, but applies equally to Rigged Hill Windfarm Repowering). At this point, driven by technical requirements, the Operational Rigged Hill Windfarm would be decommissioned. The application for the Development is made on the same basis; with effects assessed as permanent but reversible on decommissioning, which would occur depending on the technical capability of the Development.
- 28. Through consultation on 3rd July and 11th September 2020, NIEA-NED has clarified that it would be satisfied with an operational phase of indefinite duration as long as certain ecological monitoring continued throughout the operational phase. This is addressed in Technical Appendix A3.2: Draft HMP version 4.

4 Conclusions

- 29. This Addendum has been provided to address the concerns of NIEA-NED. Further consultation was carried out with NIEA-NED and CC&GBC staff prior to preparing this Addendum to discuss these issues and ensure that the material presented in this Addendum addressed as far as practicable the issues raised.
- 30. The additional information provided in this Addendum does not alter the assessment of effects provided in the ES.

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Rigged Hill Windfarm Repowering

Technical Appendix A3.2: Draft Habitat Management Plan (version 4)

Environmental Statement Addendum No. 2 November 2020





Rigged Hill Windfarm

Habitat Management Plan



September 2020

Version 4.0



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1 Introduction

The overall purpose of the Rigged Hill Repowering Habitat Management Plan ("the HMP") is to implement positive land management for the benefit of landscape and nature conservation which will mitigate any adverse impacts that the Windfarm may have had. In addition to purely mitigating against any adverse impacts, ScottishPower Renewables is also committed to enhancing the nature conservation and landscape value of the Windfarm site. The HMP defines the Aims and Objectives of the land management that will be implemented on site to achieve this overall purpose.

1.1 Background

ScottishPower Renewables' (SPR) proposal for the decommissioning and repowering of the current Rigged Hill Windfarm is about to be submitted as a planning application, and this document will be submitted in support of the application. The proposal will advocate the removal of the existing turbines and replacing them with 7 larger turbines. Where possible the existing infrastructure will be reused, although as part of the repowering development new access tracks will need to be constructed. The associated mitigation and habitat management for the repowering development (including the new access tracks, and main access track) is included within this document.

2 Land Ownership

Land within the site boundary is owned by multiple individuals and has been leased to SPR. The Lease Agreements include provision to enable SPR to implement management works on the surrounding habitat.

3 Site Location and HMP area

The site is located 8km east of Limavady, Northern Ireland. The Habitat Management Area ("the HMA") lies within the development boundary and encompasses a total area of 76.04ha. This incorporates 43.44ha of peatland habitat, which is considered adequate to compensate for the 1.53ha of bog habitat predicted to be lost as part of the project (Rigged Hill Windfarm Repowering Environmental Statement); an 8.67ha management area to compensate for the c. 5.6ha footprint of the main access track; and a 23.94ha management area to which includes a suite of measures to improve the habitat for a wide range of bird species, but particularly snipe, hen harrier, kestrel, skylark and meadow pipit. The breakdown of the areas is shown in Table 1.

Name	Area (ha)
Unit A	11.98
Unit B	6.50
Unit C	16.66
Unit D	7.86
Unit E	0.44
Unit F	8.67
Unit G	23.94
Total	76.04

Table 1: HMA breakdown



4 Habitat Condition

4.1 Overview

Prior to developing the HMP SPR commissioned a Phase 1 habitat survey to classify habitat type across the site. Where potentially sensitive habitats such as bog or heath were identified, further surveys were carried out to inform condition and provide more detailed information on peat depth, vegetation composition and the underlying site hydrology.

4.1.1 Peatland habitat status

Although most of the site is on peat >50cm, historical land management including peat cutting, livestock grazing and drainage has had a negative impact on bog condition. The deepest peat is located on the eastern hill plateau (circa. 3m maximum depth), although there are a number of shallower areas, particularly to the south of the site. Peat depth typically decreases with increased slope and reduced elevation towards the west of the site, as the habitat transitions from a degraded bog to heathland and eventually to grassland. Monitoring of dipwells indicated that the bog water table across the site is lower than would normally be found on an intact bog (see Appendix A for further details).

Unit A has extensive evidence of historic peat cutting along with a drainage network at 10m spacing covering the entire area (Photo 1). Although *Sphagnum* mosses persist in the depressions the drains remain active which act to lower the water table. Peat depth is relatively shallow (approximately 30cm), but there is potential for positive management work to restore the habitat.

An old peat bank separates Unit A and Unit B, with the peat in Unit B apparently uncut and remains over 1m depth (Photo 2).



Photos 1 & 2: Drains in Unit A (left) and old peat bank separating Units A & B (right)

The 10m spacing drainage pattern continues across Unit B, and there is evidence of dryer hydrological conditions with *Calluna vulgaris* and non-bog grasses prevalent whereas *Sphagnum* mosses are restricted to the drains. Regenerating conifers are widespread throughout Unit B, and there is evidence that attempts have previously been made to remove the trees, with residue and stumps



visible throughout the area (Photo 3). The conifers are variable in height and density with some reaching over 4m.



Photo 3: Regenerating conifers, old stumps and tree residue on Unit B

Unit C is dominated by *Calluna vulgaris* and also has a high cover of grasses and other dwarf shrubs such as *Vaccinium myrtilus*, species that typically suggest dry conditions. There is no evidence of widespread historical peat cutting or regular drainage in the area which would give rise to the poor hydrology. The area is extensively hummocked with the true peat surface >50cm from the top of the basal layer and very tall dwarf shrub stature.

Regenerating conifers (likely seeded from the adjacent forestry) are found across the area in variable height and density albeit sparser than in Unit B, with some > 4m tall (Photo 4). There is evidence of localised peat cutting along the road edges and a small number of active drains (Map 2).





Photo 4: High *Calluna vulgaris* cover and tall stature, along with sparse regenerating conifers on Unit C

Unit D has been extensively cut historically and is dominated by old peat banks. Dryer hydrological conditions and the adjacent forestry have resulted in numerous regenerating conifers establishing throughout the area.

Unit E comprises the two turbines on peat >1m that are to be decommissioned and restored as part of the repowering development. The existing Turbine 9 is bounded by Unit B and existing Turbine 8 is bounded by Unit C, so the intention for these locations is to reinstate them to create a continuous area of blanket bog across these Units.

4.1.2 Unit F status

The main access track for Rigged Hill windfarm repowering will have a total footprint of c. 5.6ha; including unavoidable impacts on 0.5ha wet heath, 0.35ha acid flush/fen and 300m of hedgerow. Unit F covers an area of 8.67ha and is located in the south of the site, running upslope adjacent to the proposed main access track. There are drainage channels and grazing currently within the area, but grazing appears to be at an appropriate level with no evidence of under or over-grazing.

4.1.3 Unit G status

Unit G is located approximately 1-2km south west of the proposed development turbines and is approximately 23.94ha in size. There are some drainage channels cut in the west of the area, and the land is used for grazing, predominantly by sheep but also cattle.



5 Aims and Objectives

5.1 Delivery Process

The delivery of an HMP is based on achieving the various Aims, which are assessed by measuring the extent to which clearly defined Objectives and their associated condition indicators have been met. The definition of each Objective is therefore a key requirement for an HMP to allow progress to be assessed in a quantified, objective way which has clear implications for whether the overall Aims are likely to be met and any management measures which need to be put in place or amended.

A summary of the stages is shown in Figure 1 which has been applied to each Objective within this HMP. For Objectives where the required management is not obvious, or the processes not well enough understood to allow them to be defined in detail, a programme of trials is advocated to allow the methods, costs, rates and effects of management measures to be assessed before being implemented more widely.



Figure 1: Process for monitoring and management to achieve habitat restoration, redrawn from Hurford and Schneider (2007).

5.2 Quantifying restoration outcomes

Some objectives are considered to be more fundamental than others to achieve in order for habitats to be restored, and have therefore been weighted accordingly (see individual objectives within each Aim for the weighting). This allows an overall weighted average score for the entire site to be



produced out of 100 and compared against with Table 2 below, with 100 demonstrating each objective is met at every sample location. This method allows an overall assessment of restoration progress to be made.

Condition Class	Weighted Average Score		
Very poor	< 60.0		
Poor	60.01-70.0		
Acceptable	70.01-80.0		
Good	80.01-90.0		
Excellent	90.01-100		

Table 2: Scoring system for HMP targets

Table 3 shows the breakdown of each individual objective along with the weighting which is based on the relative importance for bog functioning. The highest weighting is given to bog water table as good hydrology is critical to the function of a healthy bog habitat. Higher weighting is also given to the *Sphagnum* moss objectives as these are the constants of blanket bog habitat and also indicate the basic hydrology is intact.

Aim	Group Objective		Short Description	Weighting
		1.1	WT in drought: <20cm	20%
	Bog Water Table	1.2	WT in drought: <10cm	15%
Aim 1: Underlying		1.3	WT in drought: 0cm	5%
Conditions	Tree	1.4	Trees should be absent	5%
	Regeneration	1.5	Trees should be <1m if present	5%
		2.1	Sph. present on plots	10%
		2.2	Thick sph. present on plots	5%
	Sphagnum & Peat	2.3	Sph. cover >30% on plots	10%
		2.4	Sph. trampling absent on plots	2.5%
Aim 2: Conservation		2.5	Bare peat cover <1% on plots	5%
Status		2.6	Eri. present on plots	5%
	Higher Plants	2.7	Cal. present on plots	5%
		2.8	Cal. >20cm & <20% browsed	2.5%
		2.9	True grass cover <5% on plots	2.5%
		2.10	Key plant cover <75%	2.5%

Table 3: Weighted score given to each objective

The score for a treated area is therefore calculated as follows:

Weighted Average Score = Sum (% Samples which meet Obj. 1.1 * 0.25, % Samples which meet Obj. 1.2 * 0.15..., % Samples which meet Obj. 2.10 * 0.025)



Aims and Objectives are described for the areas of modified blanket bog below. The management measures for each area are described in Section 6, and a description of the monitoring is included in Section 7.



Aim 1: Restore conditions for modified blanket bog habitat

Definition and Distribution

Units A, B, C, D and E have been identified as supporting modified bog habitat which would benefit from positive management activities (Map 2). The area covers 43.44ha and is situated within the turbine envelope.

Background

The condition of the bog habitat across the site is generally poor as a result of historical management. In order to create the underlying conditions required for the establishment of typical bog species, works will need to be carried out to reverse these negative activities and prevent further degradation.

Condition Requirements

The conditions required for blanket bog within these areas are defined as follows:

- Water table depth must be close to the surface, including the drought period April July
- Regenerating trees must be absent

Based on these requirements a set of Objectives have been defined which will allow progress to be monitored.

Objectives

A number of indicators have been used to formulate Objectives which reflect different aspects of blanket mire quality over time. These will be compared against suitable reference areas where possible to allow the quality of the restored blanket mire to be assessed in context. An Objective is considered to be met when at least 70% of sample plots meet the criteria.

	Objective	Description	Weighting
Bog water table	1.1	The bog water table should be no deeper than 20cm from the surface of the main peat mass on each sampled plot when assessed in summer 'drought conditions' (defined as the time at which water table levels on site are considered to in the lowest 10% of their measured range, and rainfall has been negligible for at least 3 weeks; surveys undertaken any time between 1st April and 31st August).	20%
	1.2	The bog water table should be no deeper than 10cm below the surface of the main peat mass on each sampled plot when assessed in summer 'drought conditions'.	15%
	1.3	The bog water table should be at or above the surface of the main peat mass on each sampled plot when assessed in summer 'drought conditions'.	5%
Tree	1.4	Conifer trees, broadleaf trees and exotic shrubs (e.g. Rhododendron) should be absent from each sampled plot.	5%
regeneration	1.5	Conifer trees, broadleaf trees and exotic shrubs (e.g. Rhododendron) should be < 1m in height if present.	5%



Aim 2: Improve quality of modified blanket bog habitat

Definition and Distribution

Units A, B, C, D and E have been identified as supporting modified bog habitat which would benefit from positive management activities (Map 2). The area covers 43.44ha and is situated within the turbine envelope.

Background

The long-term aspiration (>5 years) is to restore the blanket bog habitat to a high quality. However, the precise vegetation assemblage which would be expected is difficult to define and variation is expected. The response of certain indicators of blanket bog quality will be monitored as a long-term trend which will ultimately help to gauge success by making comparisons with other reference sites.

Objectives

A number of indicators have been used to formulate Objectives which reflect different aspects of blanket bog quality over time. These will be compared against suitable reference areas where possible to allow the quality of the restored blanket bog to be assessed in context. An Objective is considered to be met when at least 70% of sample plots meet the criteria.

	Objective	Description	Weighting
Sphagnum and peat	2.1	At least one species of Sphagnum should be present (open range land: predicted community M17, 18 or 19) on each sampled plot.	10%
	2.2	<i>Sphagnum papillosum</i> or <i>S. magellanicum</i> should be present (open range land where expected type is M17 & 18) on each sampled plot.	5%
	2.3	Sphagnum spp. should account for at least 30% of basal cover on each sampled plot.	10%
	2.4	Visible trampling or uprooting impacts of large grazing mammals on Sphagnum hummocks (or lawns) should be absent on each sampled plot.	2.5%
	2.5	Bare peat should comprise <1% of 'basal' cover on each sampled plot, in situations where it is arising due to trampling effects or disturbance by machinery (where sites are naturally eroding this target can be modified to suit).	5%
	2.6	Eriophorum spp. should be present on each sampled plot.	5%
	2.7	Calluna vulgaris should be present on each sampled plot.	5%
Higher	2.8	<i>Calluna vulgaris</i> of at least 20cm average canopy height and with < 20% leading shoots browsed by deer/sheep on average should be present on each sampled plot.	2.5%
plants	2.9	'True grasses' foliar cover should be less than 5% on each sampled plot.	2.5%
	2.10	The combined cover of <i>Calluna vulgaris, Eriophorum</i> spp. and <i>Tricophorum cespitosum</i> should account for no more than 75% of foliar cover on each sampled plot.	2.5%



6 Habitat Management Measures

The management approaches undertaken by SPR reflect the different requirements of the variable site conditions. Management units are split according to treatment and underlying habitat.

6.1 Management units

Management units have been defined according to areas which require different types of active management, as shown in the table below.

Unit	Habitat	Size
Α	Cut / drained bog	11.98
В	Drained bog, regenerating conifers	6.50
С	Dry, hummocked degraded bog	16.66
D	Cut bog, regenerating conifers	7.86
E	Infrastructure to bog	0.44
F	Degraded heath/ flush habitat	8.67
G	Ornithological improvement measures	23.94
	Total area	76.04ha

6.2 Units A and B: Drain damming

There are a number of drains across the site which would benefit from being dammed in order to prevent further damage to the hydrological regime. Approximately 14,730m of these are located in Units A and B, with an approximate size of 70cm wide x 50cm deep. SPR has developed a technique to successfully restore drained blanket bog, termed "wave damming" which has proven successful on a number of similar sites in Scotland (Photos 5 & 6). The method rapidly creates dams within existing drains to prevent water flow, which helps stabilize the hydrology and support bog forming species such as *Sphagnum* mosses. A further description of this method is provided in Appendix B. Monitoring had shown that in the absence of treatment, the drains remained active and continued to degrade the surrounding habitat.



Photos 5 & 6: Area of wave damming at Black Law windfarm immediately following treatment (left) and two years post treatment (right)



There are approximately 1288m of drains across the remainder of the site that would benefit from some form of remediation work. These drains are larger in size (approximately 120cm wide x 100cm deep) and will require a combination of interventions including re-profiling, ditch infilling and dam creation. SPR have previously dealt with large drains on a number of sites and would adapt treatment to each drain based on its individual properties. Photo 7 shows one of the large drains within Unit 7 which will be treated using a larger variation of the wave damming technique in combination with infilling using the additional nearby forestry material. In cases where the trains are too large for treatment by wave dams, a combination of plastic piling or conventional peat dams will be used to block and stabilise the drains (Photos 8 & 9).



Photo 7: Large drain within Unit C





Photos 8 & 9: Plastic piling (left) and conventional peat dam mid construction (right)

6.3 Unit B: Ground smoothing/ wave damming combination treatment

Unit B contains a considerable amount of conifer regeneration (comprising establishing trees, brash and old stumps) in addition to extensive drainage (Photo 10). SPR propose to treat Unit B using a combination of wave damming and a technique called ground-smoothing¹. Ground-smoothing was developed for use on deforested peatland and involves an excavator flipping old forestry stumps into the adjacent furrows (Photo 11), leaving behind a flattened surface where the bog water table is in closer contact with the surface, creating the conditions required to support key bog species such as *Sphagnum* mosses (Photos 12 & 13).



Photos 10 & 11: Unit B at Rigged Hill (left) and excavator flipping a stump (right)

¹ Publication of this technique is part of the IUCN Commission of Inquiry on Peatlands as part of a new chapter "Peatlands and Forestry" due to be published Q2 2019: <u>http://www.iucn-uk-peatlandprogramme.org/commission-inquiry/call-experts/forestry</u>





Photos 12 & 13: Area of ground-smoothing immediately post treatment (left) and +3 years (right)

6.4 Unit C: Tracking

SPR propose to use cross-tracking on Unit C which is dominated by large non-*Sphagnum* moss hummocks and *Calluna vulgaris*. This will involve using a low ground pressure excavator to track across the area, flattening underlying hummocks and checking the growth of the heather. This will have the effect of compressing the surface, allowing the water table to be in closer contact with the main peat mass, reducing the dominance of heather and promoting the establishment of typical bog species such as *Sphagnum* mosses.

6.5 Units B, C and D: Clearance of regenerating conifers

There are two proposed methods for dealing with regenerating conifers across the site. In areas where additional ground-treatment works are required the conifers can be dealt with by excavators concurrently. The operators can use the excavator buckets to crush the trees and bury them into the peat mass as part of a ground-smoothing process. The second technique is conventional hand clearance using brush-cutters or chainsaws on low density areas. This requires the contractor to ensure that the tree is cut below the lowest whorl of branches to ensure that no side branches remain or regrow.

6.6 Unit E: Infrastructure restoration

SPR will reuse as much of the existing infrastructure as possible for the repowering project, and any tracks or turbine pads that will not be reused will be decommissioned. The roads and turbines leading up to T8 and T9 are located within areas where habitat management works will be undertaken to improve the bog condition and quality, and it is proposed that the infrastructure will be decommissioned and restored to functioning bog habitat in tandem (Photo 14). This will include the removal of at the top 100-150cm of material (to be used in the repowering infrastructure), and infilling the void with peat.

Approximately 6, 600m³ of material will be removed from turbines 8 and 9 and the spur roads leading up to them, based on an excavation depth of 1m, with material to be used elsewhere on the repowering site. Based on the peat depths present at the new infrastructure, approximately 44, 240m³ of peat soils will be excavated from the repowering infrastructure. This will generate enough



material for use in infrastructure reinstatement; however peat may be required for other areas of reinstatement so additional material may be sourced from old peat banks in Unit C if required.



Photo 14: Road and turbine to be reinstated to blanket bog habitat.

6.7 Unit F: Drain damming

There are a number of drains within Unit F that SPR propose to treat using the wave-damming technique. The rewetting of the area will increase its suitability to waders (including snipe) and improve foraging habitat for various bird species (including skylark and meadow pipit). In addition, approximately 300m quality hedgerow will be planted along Terrydoo Road to compensate for that lost during construction of the main access track.

6.8 Unit G: Ornithological improvement measures

Although it is expected that all the habitat management works described previously will benefit various birds through the creation of foraging and nesting habitat, two adjacent areas of approximately 24ha to the south west of the site will be improved, with a range of management measures targeted to benefit snipe, hen harrier, kestrel, meadow pipit and skylark. A number of wader scrapes will be created within the areas (1-2 per ha) as per best practice guidance (RSPB (2005) Wet grassland practical manual: breeding waders). As identified in the guidance the minimum surface area of a scrape will be 4 m²; with an irregular shape; with a gently sloping edge with a rough uneven base to a maximum depth of 40 - 70 cm at the centre. There will be no spoil banked around the perimeter of the scrape, and scrapes will not be fenced off to prevent overgrowth by plants. The scrapes will support a variety of invertebrates and become important feeding areas.

Approximately 1.1 km hedgerow and tree planting will be carried out along existing linear features, including riparian tree planting along the Aghadowey River. Exact species and locations will be



confirmed following a more detailed site survey; indicative locations are shown on Map 2. This will create quality foraging habitat for bird species such as hen harrier, which are known to forage along hedgerows and other linear features (Madders, 2003²).

In addition, two nest boxes will be installed in the south west of the site: indicative locations are shown on Map 2. The intention of this is to provide nesting locations for kestrel away from the commercial forestry plantation and main windfarm area.

6.8.1 HMA: Cessation of peat cutting

Within the HMA there will be a cessation of turf extraction and peat cutting to prevent further habitat degradation.

6.8.2 HMA: Grazing management

Prior to commissioning of Rigged Hill Windfarm repowering, SPR will determine the current levels of livestock grazing and grazing regimes within the HMA. DAERA have produced guidance on stocking densities and regimes for a range of bog habitats³ and SPR will liaise with landowners to ensure that grazing levels are in line with this guidance to prevent further habitat degradation and aid habitat recovery. SPR will continue to monitor the HMA and if monitoring data suggest grazing levels are too high, SPR will liaise with landowners to reduce grazing. In accordance with existing management practices, stock welfare will be checked on a frequent basis and any fallen stock removed from the site to dissuade any scavengers (e.g. ravens).

6.9 HMA: Agricultural activities

In addition to measures concerning peat cutting and grazing management, SPR will implement further restrictions on certain agricultural activities within the HMA in order to prevent further degradation of the habitat and aid habitat recovery. The list of activities that will be prohibited within the HMA is as follows:

- Heather cutting, flailing, mowing or burning
- The creation of new drainage ditches or the maintenance or clearing out of existing moor grips or drainage ditches
- Cultivation, chain harrowing, fertilisation, reclaimation, mineral extraction, dumping, infilling or construction of new lanes
- Application of slurry, farmyard manure, lime, herbicides, pesticides, insecticides, sheep dip, fungicides, basic slag, sewage sludge and poultry litter
- Supplementary feeding sites, temporary silage clamps and storage areas for big bale silage
- Erection of new fencing

² Madders, M. 2003. Hen Harrier Circus cyaneus foraging activity in relation to habitat and prey. Bird Study. Vol 50: 55-60

³ Sheep only grazing 1st March to 31st October at an average stocking rate not exceeding 0.075 LU/ha per year. Source: <u>https://www.daera-ni.gov.uk/publications/efs-planner-instructions;</u>



7 Monitoring Proposals

SPR has developed a protocol to monitor vegetation in relation to the objectives set out within this Habitat Management Plan based on extensive experience monitoring similar habitats across Scotland.

Monitoring will be undertaken on a set of n=30 permanent 1m radial samples in Units A, B, C and F (n=90 total). Unit D will only be monitored through a walkover survey as the only management prescription is to remove regenerating conifers. Units E and G will be monitored using fixed point photography only.

At each 1m radial sample the following information is collected for species relevant to the Objectives (target species):

- 1. Presence/absence of target species
- 2. By eye cover targets of key metrics (see 2a below)
- 3. Height and offtake of Calluna
- 4. Depth to water table (using fixed dipwell)
- 5. 3 pin hits of foliar and basal vegetation cover equally spaced along a 20m transect (long format only)

There are two monitoring methods used: a long monitoring protocol and short monitoring protocol. The short monitoring protocol only records items 1, 2, 3 and 4. The protocols will be applied according to the programme below.

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 7	Year 9	Year 15	Year 20
Method	Long	Short	Long	Short	Long	Short	Long	Long	Long

Following the initial monitoring programme which covers up to year 20, the long monitoring protocol will be carried out every 10 years for the duration of the operational life of the windfarm.

In addition to the vegetation and hydrological monitoring, SPR will undertake visual checks of the site on an annual basis to confirm compliance with the aforementioned management measures and to check the overall condition of the habitat management areas.

Field protocol

1. Frequency Assessment

At each monitoring sample plot a rope demarcated at 0.25m, 0.50m and 1m will be used to form a radial quadrat. Starting with the smallest distance and working up to 1m, the presence of each target species is to be recorded, noting the smallest distance found. This nested unit size allows different sizes of sampling units to be applied to species of differing abundances for trend monitoring i.e. common species are assessed in smaller units, rarer species are assessed in larger units.

2. General Cover Assessment

- a) Record each by eye cover assessment within each frequency point (1m circle):
 - i) is sphagnum cover > 30% (if unsure record lower)
 - ii) is bare peat cover < 1% (if unsure record higher)



- iii) is true grass cover (excluding Molinia) < 5% (if unsure record higher)
- iv) is the combined cover of Calluna, Eriophorum and Tricophorum < 75% (if unsure record higher)

3. Calluna height and offtake

Record the height of a representative *Calluna* plant within each 1m radial plot. Record *Calluna* height from top of the basal layer the depth of the basal layer to peat surface separately. Record the percentage of *Calluna* long shoots browsed.

4. Dipwell protocol

Permanent dipwells will be installed at each monitoring sample plot. During a drought period where there has been no limited rainfall in the preceding 14 days (typically between April and June, although can occur at other times), the dipwells will be measured by measuring from the top of the dipwell to the water table (termed "water depth"), and from the top of the dipwell to the main peat mass surface (termed "peat offset"). By subtracting the peat offset from the water depth it is possible to calculate the true value of the water table within the bog. On a quality bog the water table should remain within 20cm of the surface of the peat mass throughout the year.

5. Pin hits

At each monitoring sample plot a rope demarcated at 1m, 11m and 19m is set out to the west. At each marker point a laser pointer is stood on the north side of the rope and used to record any living plant species, litter or bare peat that it hits directly below. Both basal layer and higher vegetation are to be recorded.



Appendix A: Bog hydrology

Dipwell measurements

Dipwells were installed on a grid across the site at 90m spacing (n=29). Measurements were taken during a drought period (defined as no significant rain in the preceding 2 weeks) to capture a period of stress when the bog water table is drawn down. On unmodified bog, monitoring has shown that the water table level remains within 10cm of the surface (or even less) during drought periods. This is considered to be critical for creating the conditions for specialist bog species such as *Sphagnum papillosum* to survive, and for maintaining the largely anoxic conditions within the catotelm which preserves plant remains as peat (i.e. "active" bog conditions).

The results showed that water table levels across the site were generally poor during drought conditions, with only one out of 29 dipwells achieving the criteria of having a water table within 100mm of the surface (78mm). A further 8 points had a water table 100-200mm below the surface, and the remaining 20 points were over 200mm from the surface. Map 3 shows the spatial distribution of dipwells and the recorded water table depths (0 = water table was not within 100/200mm of the surface, 1 = water table was within 100/200mm of the surface).

No dipwells within Units A and B achieved a water table level within 200mm of the surface, supporting the conclusion that the site is degraded from a functional bog perspective. A small number of dipwells in Units C and D achieved a water table level within 200mm of the surface, and only one dipwell reached within 100mm of the surface. The site would therefore benefit from interventions to restore the underlying hydrology.



Appendix B: Wave damming summary

The process

1. Identify the drain. The excavator has tracked down the drain, flattening the vegetation and exposing the oxidised peat slope either side of the cut channel. The excavator will straddle the drain, facing upslope. The operator will begin working at the top of the slope, building the dams as they move downhill.





2. The operator will start work on one side of the dam, on the oxidised peat slope. The operator uses the bucket to cut into the peat mass circa. 800mm depth. The bucket is then used to pull the peat towards the excavator, thrusting material upwards. Care should be taken to ensure that the operator does not flip the peat during this process, and the vegetated surface remains on top.







3. Using the back of the bucket, the operator pushes the back of cut peat towards the machine so that it is compressed into place with a ramped face.





4. The operator will repeat this action a second time, in the middle of the drain.





5. The operator will then repeat this action a third time on the other side of the drain, on the oxidised peat slope. The dam is now three bucket widths wide, although additional width can be achieved using additional bucket widths.







6. The operator then uses the bucket to flatten and compress the top of the dam.



7. The operator then uses the bucket to flatten the edge of the cut face behind the dam. This will enable any livestock a way to climb out of the dam.





8. The finished process.



About wave damming

Timing

The time taken to build a wave dam is on average about 1minute; significantly faster than traditional dams which take over ten minutes to build.

Spacing

The wave dams are installed close together, roughly every 3-4m. This spacing was specified so that there was not more than a 10cm drop in ground level between each dam location so that water stored behind the dam can re-wet the intermediate drain space and adjacent ground. The spacing of dams is also dependent on local gradient.

<u>Width</u>

The width of the dam ensures that not only the ditch itself is blocked, but also the collapsed oxidised slopes on either side of the channel. This reduces the likelihood of a new hydrological flow around the side of the dam, and encourages the water to spread out and rewet the wider bog.





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Rigged Hill Windfarm Repowering

Technical Appendix A3.3: Planning Memo - Grid Connection Assessment

Environmental Statement Addendum No. 2 November 2020



Planning Memo- Response to NIEA-NED Consultation Response (2nd July) Grid Connection Assessment

(i) NIEA- NED Request for Additional Information

In their NIEA-NED consultation response, dated 2nd July 2020, NIEA- NED sought the following additional information (amongst other natural heritage issues);

"1. Full ecological impact assessment of the proposed electrical grid connection, particularly with regard to European designated sites, priority habitats (including active peatland), protected and priority species, and sensitive bird species."

The request for additional information on the grid connection is informed by the NIE-NED position that states;

NED is concerned with the lack of assessment provided for the proposed electrical grid connection. The EIA has not considered the significant environmental effects of the proposed 16km overhead power line for the grid connection. No ecological surveys or appropriate impact assessment has been carried out for this element of the project despite it being an integral part of the overall wind farm project. NED would highlight that overhead power lines have the potential to have significant effects on the environment, particularly on ornithological interests and landscape, but also on important habitats and protected and/or priority species. These significant effects would be in addition to any significant effects caused by the development as described and assessed in the ES - i.e. the decommissioning of the operational Corkey wind farm and the construction and operation of the new wind farm.....

Additionally, there have been a number of legal cases in the Republic of Ireland where court judgements have been made regarding the assessment of grid connection routes of proposed wind farms in an Environmental Impact Assessment (See: O Grianna & ors -v-An Bord Pleanála [2014]4 and Daly -v- Kilronan Windfarm Ltd [2017]5). These judgements have made clear that a wind farm development and its connection to the electricity grid are integral parts of one overall project and cannot lawfully be separated for the purposes of an EIA. Therefore, an appropriate environmental assessment must be carried out on both elements of the project, taking into account cumulative impacts, before planning permission can be granted. NED would highlight that any decision on the lawfulness or validity of the EIA rests with the planning authority."

(ii) Purpose of Planning Memo

The purpose of this planning memo is to respond to NIEA- NED's consultation response regarding the grid connection assessment. The memo is informed by the (i) current project status including the grid connection, (ii) adherence to the EIA Regulations and Directive and the Habitats Regulations and (iii) legal advice from Shepherd & Wedderburn Ilp. The Corkey planning application approach to the EIA is valid and is not intended to circumvent the EIA Regulations or EIA Directive. This is on the basis that an EIA and HRA has been undertaken for the wind farm application and that an EIA and/or HRA will be undertaken at the time of the grid connection application in the event that it is likely to have significant effects on the environment, and so any cumulative or in-combination effects will be considered at the point of the grid connection application being submitted. The approach that has been taken is a consequence of the regulatory regime in NI which requires permission to be granted for a wind farm before a grid connection offer can be secured and therefore the detail of the grid connection is not known at the time of applying for permission for the wind farm. It is therefore not feasible for the onshore wind farm EIA to include an assessment of the grid connection as the details are not known. Furthermore, we cite that the referenced ROI caselaw (O Grianna & Ors -v- An Bord Pleanála [2014] IEHC 632 and Daly -v- Kilronan Windfarm Ltd [2017] IEHC 308) is not legally binding in Northern Ireland, as it is domestic caselaw albeit predicated on the EIA Regulations. Northern Ireland, in conjunction with Scotland, England and Wales have obligations, as part of their role within the UK, to meet the EU EIA

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PLANNING & ENVIRONMENTAL LIMITED Directive, which include the requirement to comply with the EIA Regulations. The approach to Corkey EIA is consistent with best practice across the UK, where domestic planning regimes are more aligned.

Corkey Repower Planning Application (LA01/2019/0772/F) (iii)

The Corkey planning application does not seek planning permission for the grid connection. The grid connection does not form part of the planning application development description. As detailed in the submitted ES (chapter 3.0), the grid connection will be consented under a separate planning application process. However, the submitted ES does identify indicative details of likely routes and the anticipated method of connection (over ground or underground) providing 3 potential grid connection routes which represent the worst-case scenario. This approach is in line with the guidance provided in PPS18- Best Practice Guidance and the Strategic Planning Policy Statement. Paragraph 6.3.2 of the SPPS provides the following commentary on the grid connection issue:

"Some proposals for renewable energy development may require a connection to the National Grid. The grant of planning permission does not guarantee grid connection. Connection to the grid falls within the remit of Northern Ireland Electricity (NIE) and therefore liaison with NIE at an early stage of any renewable development but particularly a wind turbine / farm development is considered to be paramount in relation to the viability of such a scheme."

Section 1.2.24 of the BPGs states the following regarding grid connections:

"Responsibility for the routing of electrical cabling onwards from the sub-station to the nearest suitable point of the local electricity distribution network is the responsibility of the District Network Operator, presently NIE (Northern Ireland Electricity). This will be achieved either by a standard 3-wire system mounted on wooden poles or by lines laid underground. It should be noted, however, that laying high voltage cables underground is much more expensive (around 6-20 times greater) than pole-mounted overhead systems and would be likely to be used only for limited lengths and/or in special circumstances. Whilst the routing of such lines by NIE is usually dealt with separate to the planning application for the wind farm, developers will generally be expected to provide indicative details of likely routes and the anticipated method of connection (over ground or underground)."

The project Environmental Statement does have regard to the potential grid connection routes, and therefore it is inaccurate to state the windfarm and grid connection are being separated for the purposes of EIA. For illustrative purposes, the windfarm applicant included a figure showing potential routes to a potential connection point in the ES following preliminary discussions with NIE, but noted that this was in order to evaluate feasibility only and identify possible routeing options (for the future grid connection project, not for the windfarm). The EIA for the windfarm did not attempt to include assessment of any grid connection (an approach that was in line with the EIA Scoping report and consultation responses).

A decision on consent for a proposed development should be informed by the potential effects of the proposed development, including the cumulation of effects with other existing and/or approved projects (from the EIA Regulations). The windfarm would be approved first, and the EIA for the windfarm should assess the effects of the windfarm, with any other projects that are existing or approved - this does not include the grid connection which as is not progressed to a stage where it is possible to undertake a meaningful informed assessment. The grid connection route, insofar as it has been progressed, is outlined within the project ES.

(iv) **Current Status of Grid Connection**

The grid connection project has not yet been started, nor has it been defined in detail. The first stage is for NIE to identify the location at which the windfarm connection would be made with the existing grid typically an existing substation. This has not yet been done by NIE, and detailed studies will be undertaken once the grid application is submitted and the grid offer signed by SPR. In NI grid connection offers cannot be secured until planning permission has been secured for the windfarm and consequently detailed feasibility studies are not commenced until post approval of the windfarm. The second stage is for NIE to propose a route, which may be not at all, partly or wholly along roads, and not at all, partly or



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wholly be located below ground, all subject to landowner agreements and planning permission, noting that NIE as the statutory undertaker has certain, limited, permitted development rights. This has also not yet been done. The applicant has the option to undertake the "contestable" parts of the grid connection work (the majority of the overhead line/underground cable route) themselves, which would give them control of the route and whether it is above or below ground, subject to landowner agreements and planning permission. There is therefore no proposed connection point, and no proposed route, at this stage.

Any attempt at assessment of the grid connection would be fundamentally flawed, because the grid connection project being assessed may be not the one that will in future be proposed. In the context of this uncertainty, it is not possible to define a realistic worst-case scenario, nor could meaningful mitigation be proposed. As planning permission for the grid connection is not being sought. There is no mechanism in the current planning application to ensure that any potential grid connection (and associated mitigation measures) be lawfully approved.

(v) Grid Connection Route Assessment

The consenting of grid connection will be considered post-consent of the windfarm. Whether the grid connection approval is brought forward by NIE (as the statutory undertaker) or SPR (via contestable route), if the form and route of grid connection proposed had the potential for significant effects (subject to the provisions of 'The (Environmental Impact Assessment) Regulations (NI) 2017'), it would be EIA development and any permitted development rights would not apply (Para 3 (8) of 'The Planning (General Permitted Development) Order (NI) 2015). A planning application with EIA would be required. The EIA for the grid connection project should consider the effects of the grid connection, including the cumulation of effects with other existing and/or approved projects, which would by that point include the windfarm. The cumulative effects of the windfarm and the grid connection would therefore be fully considered in the grid connection application. If mitigation is required for the grid connection application process.

Furthermore, the grid consenting process will be subject to the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended) ("Habitats Regulations"), and will be subject to assessment under Regulation 43 of the Habitats Regulations. Legislative provision within The Planning (General Permitted Development) Order (NI) 2015 ensures that permitted development rights do not bypass Habitat regulation obligations (refer to section 3 (1) of The Planning (General Permitted Development) Order (NI) 2015). The impact of the grid connection project (either alone or in combination with other plans or projects) upon the integrity of European sites will be screened and assessed in line with the Habitat Regulation requirements.

Whilst we recognise that the grid connection is an integral element of the windfarm development, permission is not being sought for the grid connection as part of this planning application. Furthermore, the grid connection has not been progressed to a stage where it is possible to define a realistic worst-case scenario in EIA terms, nor could meaningful mitigation be proposed for the grid connection and indeed any such mitigation measures could not be lawfully implemented as planning permission for the grid connection is not sought. The grid connection route options have been addressed by the ES, insofar as it can be at this stage. The subsequent grid connection consenting process will be subject to the provisions of 'The (Environmental Impact Assessment) Regulations (NI) 2017' and the and Appropriate Assessment/ Habitat Regulations Assessment (Article 6 of Habitat Directive) subject to the final grid connection routes. This is not an attempt to 'project-split' the Development, but rather reflects the current grid connection project status.

(vi) Legal Considerations

Our legal advisors have highlighted UK case law on "project splitting" that support the Corkey EIA approach, for example *R. (Larkfleet Ltd) v South Kesteven DC [2015] EWCA Civ 887* states:

37. It is true that the scrutiny of cumulative effects between two projects may involve less information than if the two sets of works are treated together as one project, and a planning authority should be astute to ensure that a developer has not sliced up what is in reality one project in order to try to make it easier to obtain planning permission for the first part

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of the project and thereby gain a foot in the door in relation to the remainder. <u>But the EIA</u> <u>Directive and the jurisprudence of the Court of Justice recognise that it is legitimate for</u> <u>different development proposals to be brought forward at different times, even though they</u> <u>may have a degree of interaction, if they are different "projects"</u>...

38. The EIA Directive is intended to operate in a way which ensures that there is appropriate EIA scrutiny to protect the environment whilst avoiding undue delay in the operation of the planning control system which would be likely to follow if one were to say that all the environmental effects of every related set of works should be definitively examined before any of those sets of works could be allowed to proceed (and the disproportionate interference with the rights of landowners and developers and the public interest in allowing development to take place in appropriate cases which that would involve). Where two or more proposed linked sets of works are in contemplation, which are properly to be regarded as distinct "projects", the objective of environmental protection is sufficiently secured under the scheme of the Directive by consideration of their cumulative effects, so far as that is reasonably possible, in the EIA scrutiny applicable when permission for the first project (here, the link road) is sought, combined with the requirement for subsequent EIA scrutiny under the Directive for the second and each subsequent project...

The EIA for the windfarm assessed the effects of the windfarm, with any other projects existing or approved, in line with requirements of the EIA Regulations. The grid connection will be subject to the EIA scrutiny under the EIA Directive and Regulations, including cumulative assessment with the consented windfarm (if approved) upon such time as the final grid connection has been agreed and progressed.

Further caselaw has also been cited by the legal advisors, specifically the Opinion of Advocate General Gulmann in *Bund Naturschutz in Bayern eV and Others v Freistaat Bayern (case C-396/92)* where he considered whether sections of a new link road, being promoted separately but also forming part of a much longer intended route, could lawfully be subject to an EIA which assessed only the environmental impact of the section for which development consent was sought or whether the road link as a whole had to be assessed. A-G Gulmann was of the opinion that an EIA is to be carried out for projects in respect of which the developer is seeking development consent noting that the "*result is confirmed by the difficulties which could arise in laying down what comprises an "entire project" when that concept is not the same as "a specific project in respect of which an application has been submitted". In addition, there might be difficulties in carrying out an environmental impact assessment as provided for in the directive for projects which have not yet been worked out in detail."*

The Opinion goes on to say that "the purpose of the directive should not be lost by the projects which should be subject to an environmental impact assessment being given a form which renders an environmental impact assessment meaningless" and that "Member States must ensure that the obligation to carry out an environmental impact assessment is not circumvented by a definition that is over-strict or otherwise inappropriate, in the light of the purpose of the directive, of the projects in respect of which application must be made."

The Opinion further explains that "[t]he subject-matter and content of the environmental impact assessment must be established in the light of the purpose of the directive, which is, at the earliest possible stage in all the technical planning and decision-making processes, to obtain an overview of the effects of the projects on the environment and to have projects designed in such a way that they have the least possible effect on the environment, That purpose entails that as far as practically possible account should also be taken in the environmental impact assessment of any current plans to extend the specific project in hand."

(vii) Conclusion

Having regard to the details outlined in this memo we highlight that the approach to the project EIA is a consequence of the NI regulatory regime, which is underpinned by current planning policy guidance (SPPS and PPS18 Best Practice Guidance). It is not intended to circumvent the aims or purpose of the



PLANNING & ENVIRONMENTAL LIMITED EIA Directive or Regulations as the grid connection application will be subject to an EIA at the time of application if it has the potential to give rise to likely significant effects on the environment. This will ensure that the grid connection assessment is meaningful as it will be based upon a scheme which has a degree of robustness/ surety, which cannot be provided for at this stage.

In light of sections (i) to (vii) a "full ecological impact assessment of the proposed electrical grid connection" will not be provided.





Rigged Hill Windfarm Repowering

Technical Appendix A3.4: Planning Memo – Operational Lifetime

Environmental Statement Addendum No. 2 November 2020

Planning Memo: Planning Ref LA01/2010/0890/f Corkey Windfarm Repower Operational Lifespan

1.0 Corkey Repower Windfarm- Application for In-Perpetuity Consent

The planning application does not propose a lifespan for the proposed Development. Section 3.9 of the submitted 'Planning Statement' outlines this position stating:

"3.9 Operational Phase

No time limit on the operational lifespan of the Development has been assumed for the purposes of this assessment. The Operational Corkey Windfarm currently operates in perpetuity without a time limited planning condition. We respectfully request that there is no time limited planning condition restricting the operational life of the Development. This will maintain the current status quo with the operational parameters of the Operational Corkey Windfarm."

The Environmental Statement is based upon the in-perpetuity position but the ES still considers the decommissioning phase and assesses the worst-case scenario. Refer to section 3.10 of Volume 1 of the submitted ES, which is outlined below:

"3.10 Decommissioning

In the event that the Development requires to be decommissioned, the process would be similar to the decommissioning of the Operational Corkey Windfarm. Given the fewer number of turbines, the potential effects arising from such decommissioning will be less than the effects arising as a result of the combined initial decommissioning and construction phases described above. These phases combined therefore represent the worst-case parameters for assessment purposes."

2.0 Material Planning Consideration- Planning Policy RE1 of PPS18

Policy RE1 of the PPS 18 links the duration/ lifespan of windfarm planning permission(s) to the expected operational life of the proposed turbines. However, we also note that Policy RE1 does not make recommendation on the actual lifespan, in terms of the number of years.

In this policy context, we highlight that the use of a standard planning condition to require the removal of wind turbines should it become inoperative for a period of more than 12 months (or an extended period of time as other agreed with the planning authority) will serve the same purpose as a time-bound operational lifespan condition, i.e., it will result in the removal of non-operational redundant infrastructure. This could be accompanied by a standard planning condition requiring the submission of a decommissioning plan and site restoration plan. The use of these conditions represents a more sustainable approach to the renewable energy resource at Corkey. Renewable energy is now the sustainable present and future of energy and power production in NI and should be treated as a long-term asset rather than a temporary asset. This should be reflected in the planning conditions.

Removal of the asset in part/or all is then rightly driven by technical requirements and health and safety legislation, matters separate to planning legislation, to determine the appropriate lifespan of the windfarm, rather than an arbitrary period being set in the planning permission, which does not have a sound evidence base. This will enable the proposed Development to produce electricity for as long as possible, without the requirement to seek arbitrary variations to the terms of the Development's planning consent.

We emphasise that adopting the in-perpetuity approach to the life-span of Development does not conflict with the policy provisions of PPS18 RE1. The use of standard planning conditions requiring inoperative turbines (12 months or an extended period of time as otherwise agreed with the planning authority) will ensure that non-operational turbines and associated components will be removed from site, whilst maximising the energy assets at the Corkey windfarm site. Turbine technology continues to improve and with the strategic replacement of key components such as gearboxes, blades, sensors and electricals it is likely that windfarms currently seeking permission could operate well in excess of the previous typical windfarm life-span condition timeframes.

3.0 Material Planning Consideration- 'Fall Back' Position

We highlight that 'fall-back' position in respect of the existing in-perpetuity consent at the site should be afforded significant material weight in consideration of the potential operational lifespan of the proposed Repower Development. The proposed Repower Development does not seek to change the principle of the in-perpetuity consent at the site, rather just the detail of the permitted wind turbine at the site. Planning caselaw has established the following position in respect of the 'fall-back' position;

"The prospect of the fall back position does not have to be probable or even have a high chance of occurring; it has to be only more than a merely theoretical prospect. Where the possibility of the fall back position happening is "very slight indeed", or merely "an outside chance", that is sufficient to make the position a material consideration."¹

The existing windfarm could continue to operate at the Corkey site in-perpetuity. We consider that the Council should afford significant weight to this position, in addition to other material considerations outlined in this Planning Memo.

4.0 Material Planning Consideration- Statutory Consultee Consultation Responses

We can confirm that statutory consultees have not raised any issue with the principle of the in-perpetuity consent, as applied for under Planning Reference No.LA01/2019/0772/F. The project team has agreed, in consultations with NIEA-NED on 23rd July 2020, that operational planning conditions will be required to ensure that the monitoring of ecological and habitat impacts are mitigated and monitored in-perpetuity, in line with the lifetime of the windfarm. The updated draft Habitat Management Plan (submitted as part of FEI No.3) specifies ongoing operational monitoring regime for the lifetime of the windfarm, that was agreed in principle with NIEA-NED at a meeting on 11th September 2020. Furthermore NIEA-NED, confirmed at a subsequent meeting on 11th September that they were satisfied that an ornithological monitoring regime could be agreed as part of a planning condition. This matter is being addressed in 'Further Environmental Information' submission No.3 which is due to be submitted in early October.

¹ [2012] EWHC 3708: Zurich Assurance (trading as ThreadNeedle Property Investments) and North Lincolnshire Council & Simons Development Ltd (20th December 2012)

5.0 Material Planning Consideration UK Precedent- In Perpetuity Windfarm Consents

Clarification was sought by CC&GB on examples of other UK windfarm planning applications permitted with in perpetuity consents. In the past number of years windfarm consents in England have mostly been determined under the Planning Act 2008 in the form of Development Consent Orders ("DCOs"). To date, no DCO has placed any limits on the duration of the operational phase of the windfarms. Examples of recent DCOs granted for renewable energy generation windfarm schemes included;

- Norfolk Boreas
- Norfolk Vanguard
- Hornsea Three
- East Anglia Three
- Triton Knoll

In additional to the windfarm schemes, we cite Cleve Hill Solar Park which also has an inperpetuity consent. The aforementioned examples, although not Windfarm Repower schemes, highlight that the principle for in in-perpetuity consents for energy generation renewable energy schemes has been established in the UK. In the case of Windfarm Repower projects SPR are seeking to maintain existing in-perpetuity consents at their existing windfarm sites that will be subject to Repowering including (i) Barnesmore windfarm in Co.Donegal, Ireland and (ii) Corkey and Rigged Hill windfarms.

6.0 Conclusion

Having regard to the material planning considerations outlined in section 2.0-5.0 of this Planning Memo we consider that LA01/2019/0772/f should be granted an in-perpetuity consent.

