INTERNAL CONSULTATION RESPONSES – STORNOWAY WIND FARM REF 19/00242/CONSG

ECONOMIC DEVELOPMENT (NO OBJECTION)

A previous consent for 42 wind turbines on the site around Stornoway is in place. However, there has been a material change in what is proposed – a reduction from 42 turbines to 35, higher output, units - and this is, therefore, a new application, supported by a new EIA. This new application is for an installed capacity of 196MW compared to the 151.2MW of the previous consent.

The previous Stornoway Wind Farm scheme was assessed for socioeconomic benefit and the following impacts were validated:

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<th>OUTER HEBRIDES</th>
<th>REST OF SCOTLAND</th>
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<tr>
<td></td>
<td>Direct</td>
<td>Indirect</td>
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<tr>
<td>Construction</td>
<td>49</td>
<td>11</td>
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<tr>
<td>Operation</td>
<td>19</td>
<td>8</td>
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<td><strong>TOTALS</strong></td>
<td>68</td>
<td>19</td>
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Given that the number of wind turbines has been reduced under this new application, construction impacts may be lower than previously forecast, certainly in terms of site preparation and civils. Many of the new turbines will be considerably larger than those proposed previously so the fabrication impacts may not differ considerably from earlier projections.

Projections for operation impacts remain valid at 19 FTE Direct and 8 Indirect.

Community Benefit is not a material consideration in the planning process and the following comments are offered without prejudice to the planning assessment of this scheme. With regard to Community Benefit impacts, the developer has committed to an index linked contribution of £4,000 per installed MW per year which equates to around £600,000 per annum based on the already consented 151.2MW. The new application increases that to a consented 196MW and will bring an additional £180,000 per annum in Community Benefit. This income to the community will be in addition to landlord / crofter rentals and a generous Shared Ownership offer being taken forward by The Stornoway Trust. It is considered that Community benefit payments will result in the creation of 8.1 FTE posts in the community.

It is worth noting that Scottish Hydro Electric (Transmission) Limited has made it a condition of Radial Connector construction that Stornoway Wind Farm is successful in its bid to the 2019 Contract for Difference Auction Round.

ARCHAEOLOGY SERVICE (NO OBJECTION, CONDITION REQUIRED)

Matters relating to Archaeology and Cultural Heritage are considered within Volume1, Section 3 of the Non - Technical Summary and Volume 2, chapter 7 of the EIA report.

The potential effects of the proposed development have been examined against an assessment of the importance of the known historic environment assets identified in the study areas. The report also considers the potential for impact on heritage assets in terms of setting and additionally for the potential for unknown archaeological remains to be encountered. It outlines methods of mitigation
that will offset the impact of the development on the historic environment resource. The study was
carried out through desk based assessment and analysis of previous walkover survey data of the zone
of development.

Sub section 7.3.4 identifies the current Planning Policy associated with development and the historic
environment. It sets out the Scottish Government’s policy (SPP.2014) and its strategy with regard to
cultural heritage. It also identifies the policies and guidance of Historic Environment Scotland and
includes Comhairle nan Eilean Siar’s policy statements regarding cultural heritage and development
as set out in the Local Development Plan (LDP.2018).

Heritage assets identified within the development boundary range from prehistory through to the
modern period. The majority of sites relate to the medieval and post medieval period; however the
origins of some of these sites maybe earlier. The potential for undiscovered heritage assets is
identified by a small number of known prehistoric sites recorded in the development zone and the
situation of the development within a large area of blanket bog. Additionally the potential of these
wetland environments to preserve important information about the development of the Holocene
environments is recognised.

Consideration for the direct and indirect impacts on the heritage resource has been appropriately
assessed within this chapter. Mitigation of direct impacts will be managed through a program of
archaeological works agreed in advance with the Comhairle Archaeology Service for all areas of
potential negative impact. Indirect impacts have been addressed through assessment of sensitivity to
identified heritage assets by the proposed development and where necessary the projects plan was
redesigned to reduce impact.

The Archaeology Service recommends that an Archaeological Clerk of Works is appointed to manage
the program of works. This program should include but is not restricted to, provision for monitoring,
10% evaluation, palaeo-environmental sampling and where necessary excavation; this will also include
any subsequent post excavation analysis and publication.

The suggested mitigation will be sufficient to offset the potential impact of the development on the
historic environment resource.

Response to SEI:
Thank you for consulting the Archaeology Service in respect of the ES addendum to this
application. Please be advised that the updated drawing Vol.3, Fig 7.1 has been acknowledged
and that the original response from the Archaeology Service remains the same.

ENVIRONMENTAL HEALTH (NO OBJECTION, CONDITION REQUIRED)

This response is based on the caveat that the developer has included all the noise from all consented
windfarms in the cumulative assessment as per the Wind Energy Development Supplementary
Guidance (Nov 2018), page 11. It is also acknowledged that some assessments are predicated on the
presumption that other developments (or parts thereof) will not be proceeding.

The developments considered for cumulative noise assessment are:

- Beinn Ghrideag; in place
- Arnish Moor; in place
- Creed Enterprise Park; in place
- Pentland Road; in place
• Bridge Cottages, Newmarket: in place

They have not included any of the turbines from:

19/00189/PPDM - Sandwick East Street (Druim Speireag) has 10 turbines proposed which are on locations similar to turbines 5, 8, 4, 2, 12, 11, 10, 9 of the Stornoway Wind Farm;

19/00209/PPW Knock And Swordale Community Company Ltd (Beinn Thulabaigh) has turbine which is on locations similar to turbine 25 of the Stornoway Wind Farm;

16/00337/SCR_L/ 17/00043/PPSW Sandwick North Street Community Turbine (Beinn Bhuna) which does not appear to be on a similar location to any on the Stornoway Wind Farm 2019 Application (was on the same location as a previous SWF consent). Should this be included in the cumulative assessment? I understand it says in the 16/00337/SCR_L/ 17/00043/PPSW application that if SWF goes ahead this will not go ahead;

This development is for 35 turbines and I am assuming that if this goes ahead 19/00189 (Druim Speireag) will not and Turbine 25 of the SWF will not.

The noise report states that the predicted cumulative levels are all below the cumulative limits and even though they have not included 16/00337/SCR_L/ 17/00043/PPSW (Sandwick North Street Community Turbine - Beinn Bhuna) in the cumulative assessment it is not thought to be close enough to noise sensitive premises to materially add to the cumulative level.

Of note is that the noise receptor at Druim Dubh, had a separate noise condition recommended as it was understood that Stornoway Wind Farm had a financial involvement in (level of 45dB). It would be assumed that if that development went ahead then the cumulative level at Druim Dubh would also be 45dB.

The full planning condition which is based on the background noise assessment of Stornoway Wind Farm in 2011 is included in the Appendix.

Response to SEI:
Based on the information provided there does not appear to be any material change, in terms of noise and shadow flicker, from previous submissions therefore we have no additional comment.

TECHNICAL SERVICES – ROADS, BRIDGES AND STREET LIGHTING (NO OBJECTION)

A traffic management plan should be submitted for approval showing the proposed movements of haulage and site traffic as stated in Volume 2 Chapter 13 of the EIA Report.

"The additional traffic arising from the construction of these developments can easily be classified as "extraordinary" and it is therefore proposed that an agreement be reached with the respective developers that:

(1) Pre-start condition surveys be carried out by an independent specialist organisation on all those roads likely to be affected by the developments at the expense of the developers.

(2) Similar conditions surveys be carried out by the same independent specialist on a regular basis, at monthly intervals, at the developers’ expense for the duration of the development construction."
(3) Strengthening, re-alignment and road-widening works be carried out at any agreed 'pinch-point' and 'at-risk' locations, including structures, to a specification agreed with the Comhairle to safeguard the integrity of the existing infrastructure for existing traffic as well as enabling the safe passage of construction and component traffic.

(4) Any damage to the road infrastructure as a result of the works should be repaired at the expense of the developer.

(5) The delivery of turbine materials and components for this development should be routed through the Arnish site as stated and not through Stornoway Town Centre.

(6) The structure of bridges or culverts crossed by abnormal loads e.g. The Creed Bridge should be assessed for suitability at the expense of the developer.

(7) Suitable "off road" parking for site workers should be provided.

(8) Any access that joins a Comhairle road should be constructed in accordance with the enclosed access detail drawing 19/00242. This applies to the accesses on the A859 and the Pentland Rd. Detail plans should be submitted of the proposed access locations.

Response to SEI:

No change to the above.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT (LVIA)
Landscape and Visual Review, Carol Anderson Landscape Associates

Background

A wind farm of 36 turbines, 145m high to blade tip has already been consented on the site. This new application on the same site comprises 35 larger turbines, ranging between 156m to 180m high.

This review considers the landscape and visual effects of the proposal alone before addressing the differences between the consented Stornoway wind farm and the proposal. The review has been undertaken by the Comhairle’s consultant landscape architect and is based on examination of the Environmental Statement (ES) dated April 2019 and a visit to the proposed development site and key viewpoint locations during August 2019.

Policy and guidance in relation to landscape and visual matters pertinent to this proposal

The area where the proposed wind farm site is located was selected as being suitable for large scale wind energy development in a 2008 study commissioned by the Scottish Government. The principle of wind energy development on this site is also established by the current consent for a development of 36 turbines, 145m high to blade tip.

The Local Development Plan states that development for all scales of onshore wind energy development will be assessed against Supplementary Guidance for Wind Energy Development. The Outer Hebrides Local Development Plan Supplementary Guidance: Wind Energy Development (November 2018) sets out a Spatial Strategy for onshore wind energy which largely accords with SPP’s spatial framework but also informed by other constraints and considerations. In terms of landscape...
and visual impact, developers are expected to demonstrate that wind farm proposals will not have an unacceptable significant visual or landscape impact and that good siting and design has been utilised to ensure impacts are limited.

The design of the proposal

The site selection and design has generally resulted in avoidance of direct intrusion on distant but focal views to the north Harris hills from roads and residential areas across Lewis. The shallow basin of the site and the undulating nature of the surrounding landform assists in screening the bases of many turbines in key views thus reducing, to some degree, their apparent size, although the full vertical extent of turbines is more visible in elevated views from parts of the Eye peninsula.

While the wind farm appears to have been designed so that smaller height turbines are located closer to particularly sensitive viewpoints (in general closer to Stornoway), the use of multiple turbine heights is only partially successful. This is because 180m high turbines (and the closest 156m high turbines) will still overwhelm the scale of buildings and other features on the fringes of Stornoway. The wind farm, while lying close to minor relatively little-used roads, is sufficiently set back from the A857 to avoid an overly dominating effect on visual receptors. The use of 180m high turbines on the southern edge of the proposed wind farm would however be likely to increase prominence in views from the A859.

There is a disparate pattern of existing wind turbines with contrasting spacings, layout and height already in the area of the proposed development site which is evident in key views from the surrounding area. While I consider that it would not be possible to design a proposal of this scale to integrate and/or ameliorate these relatively confined groups of smaller turbines, in some more distant views this proposal, by virtue of the size and extensive spread of turbines, would form a dominant feature and thus deflect from the contrast that presently occurs in terms of size and pattern between turbine groups.

Landscape effects

The proposed development site lies within the Boggy Moor 1 Landscape Character Type (LCT). This landscape has characteristics which reduce sensitivity to large scale wind turbines including a gently undulating simple landform and land cover and a generally expansive scale. The proposal will, at the detailed level of the site and its immediate surrounds, dominate the pattern of small lochs that are feature of the area although it would fit with the relatively simple landform and scale of the site. The proposed development site however lies adjacent to the smaller scale coastal inlet and settlement of Stornoway, which features the densely clustered historic townscape centred on the harbour and the Lews Castle and Lady Lever Park Inventory listed Garden and Designed Landscape (GDL), and this increases sensitivity to wind energy development of this scale.

The coastal inlet of Stornoway (including the town, Lews Castle and Lady Lever Park GDL and the intricate harbour seascape) is not classified as a separate landscape unit in the Western Isles Landscape Character Assessment but, rather unsatisfactorily, lies partly within the Boggy Moor 1, Gently Sloping Crofting and Rocky Moorland LCTs (ES, Figure 6.15a). The Landscape and Visual Impact Assessment (LVIA) also does not define this intimately scaled and richly diverse landscape/seascape as a separate character area despite GLVIA3 advocating the need to carefully review existing Landscape Character Assessments and carry out more detailed survey work to pick up characteristics that may be important in considering the effects of a proposal. The LVIA does not mention the Lews

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1 Guidelines for Landscape and Visual Impact Assessment Version 3, Landscape Institute and Institute of Environmental Management and Assessment, paragraphs 5.12-5.16
Castle and Lady Lever Park GDL in paragraphs 6.4.11-6.4.14 describing the character of the Boggy Moor 1 LCT within which it substantially lies. The GDL also appears not to have been taken into account when considering the value of the Boggy Moor 1 LCT.

It is noted that Scottish Natural Heritage made specific comments on the likely significant adverse landscape and visual effects on the setting of Stornoway due to the size and large extent of turbines in their 30th August 2011 letter to the ECU. This comment was made in response to the original scheme which comprised 143.5m high turbines and not the 156-180m high turbines now proposed. SNH have not provided further comments on the landscape and visual effects of the current proposal to date.

In terms of the effects of this proposal on landscape character, I consider that while there would be significant adverse effects on the receiving landscape of the Boggy Moor 1 LCT, the landscape of the site is less sensitive than the Stornoway Inlet (which should have been defined as a separate landscape character unit in the LVIA). Key concerns are the effects of this proposal on the character of the small-scale and richly diverse landscape/seascape of the Stornoway Inlet. While visibility is limited from the town centre and within much of the Lewis Castle and Lady Lever Park GDL, this proposal will significantly and adversely affect the appreciation of this landscape experienced on the approach to Stornoway from the ferry and from the A866, dominating its intimate scale and richly diverse character as very large wind turbines are seen on low wooded ridgelines which provide the backdrop to the historic tight-knit core of the town core, the harbour and Lews Castle and its grounds.

**Effects on visual amenity**

The proposal would have an extensive visibility across Lewis and northern Harris due to the openness of the landscape and will be visible from roads, footpaths and from many residential properties. While all wind farms are likely to incur significant adverse effects on views, the location and size of the proposal will result in widespread significant adverse effects with the most severe of these being:

- **Views on the approach to Stornoway from the ferry**, represented by Viewpoint 8, where the turbines would be seen above the wooded ridge of the Lews Castle and Lady Lever Park GDL. The operational turbines of Pentland Road, Beinn Ghrideag and Creed are already visible on the skyline of this low wooded ridge, but these form relatively confined groups and are substantially smaller than the proposed turbines. The proposal would have an extensive spread on the skyline and would dominate views (see also above comments in relation to effects on the appreciation of the character of Stornoway and its immediate setting).

- **Views from the A866**, represented by ES Viewpoint 26 at Oliver’s Brae, where the proposal would be seen on the approach to Stornoway. Lews Castle, its designed landscape and the historic core of Stornoway are generally less distinctive in these views due to foreground modern housing and larger office development although the wind farm would form a prominent feature on the long low ridgeline above the town and result in significant adverse effects for road users and local residents.

- **Views from Gallows Hill and Lewis War Memorial (ES viewpoints 2 and 4)** which are both popular with walkers. While the key focus from these elevated features is towards Stornoway and the coast rather than towards the site, the proposal would form a dominant feature in views to the west and south-west respectively. The layout of the wind farm and its relationship to existing wind turbines and infrastructure is poor, particularly in views from the Lewis War Memorial.

- **Views from the A859 and A857** (represented by Viewpoints 3 and 7) and from the less frequented minor roads around the site (Viewpoint 1) where the proposal would form a
substantial array of very large turbines, dominating views and would have significant and adverse effects on the experience of travelling on these routes.

Although there would be very limited visibility of the proposal from the highly sensitive but more visually contained historic core of Stornoway adjacent to the harbour (ES Figure 6.20b and accompanying LVIA and Additional Viewpoints) the more elevated and/or open parts of the town and outlying settlements will be significantly and adversely affected. This will include Newmarket, Col and parts of the Eye peninsula where many residential properties are orientated to face west and south-west towards the proposal.

There are increasing numbers of tourists visiting Lewis and while the proposed development could be considered to have the effect of concentrating development next to existing settlement and light industry in and around Stornoway (and thus away from highly sensitive scenic landscapes in the south, west and south-west of the Isle of Lewis) a development of this scale could adversely affect the perception likely to be held by some receptors of the Western Isles being remote and little touched by development.

**Night time landscape and visual effects**

All of the 35 wind turbines within the proposal would require aviation warning lights comprising one medium intensity light affixed to the hub and three low intensity lights at half hub height. The Night Time Assessment set out in Appendix 6D of the ES is well-considered and I am in agreement with the judgements made on the likely significance of effects. Significant adverse effects would occur on the Boggy Moor 1 LCT, where although existing wind turbines already feature lighting, this proposal would result in a substantial change to character. Significant adverse night time effects would also occur on views from sections of the A859, the A857, the Ullapool-Stornoway ferry, from parts of the Eye peninsula and elevated residential areas around Stornoway and from part of the golf course and Gallows Hill within the Lews Castle and Lady Lever Park GDL (ES, paragraph 6.10.39 provides a useful summary). Some of the night time visualisations display a complex image more akin to oil refinery lighting due to the 4 lights affixed to each turbine in locations where a greater vertical extent of the turbines is visible (for example, Viewpoints N3 and N7 from the A859 and A857).

It is noted that Radar Proximity Activated lighting is not being proposed by the applicant.

**Cumulative landscape and visual effects**

A number of existing wind energy developments are present within the Boggy Moor 1 LCT. These vary in the size of turbines and their layout and have a disparate character. There would be significant adverse cumulative effects arising in close views (as represented by Viewpoint 1) where this proposal would be seen adjacent to these existing turbines and where their size and layout differences would be obvious. In other views (for example Viewpoints 4 and 7), the proposal will be so large and extensive that it would be likely to deflect attention away from these smaller developments. Other existing single and small groups of wind turbines are sited over 16km from the proposed development and significant adverse cumulative effects would therefore not arise.

Consented wind energy developments considered in the LVIA include the Muaitheabhal wind farm plus its two extensions (a total of 45 turbines 130-150m high) and the Drum Leathan wind farm (14 turbines, 126.5m high). Both these developments lie over 16km from the proposed development and while inter-visibility will occur in some areas, the separation distances would be such that significant cumulative effects would be unlikely to occur.
Comparison of the landscape and visual effects of the consented and the proposed schemes

Zone of Theoretical Visibility (ZTV) maps and visualisations showing comparisons of the consented and proposed Stornoway wind farms have been provided by the applicant. The ZTVs indicate that there would be very little new visibility associated with the larger turbines within the currently proposed scheme. Comparative visualisations have been produced from 8 viewpoints. The Planning Statement which accompanies the ES provides a brief assessment of the differences between the consented and proposed schemes from each viewpoint. This assessment however principally compares layout of turbines and in places it lacks rigour, for example in describing the landscape seen in Viewpoint 26 as being large scale (paragraph 1.2.22) when the focus is over Stornoway and the low wooded ridge of Lews Castle GDL.

In more distant views the differences between the consented and proposed schemes are likely to be less discernible. Observations on visual effects from key close views are:

- Views from the Ullapool/Stornoway Ferry (ES Viewpoint 8). The absence of a photograph makes it difficult to fully gauge the differences between the consented and proposed schemes from the ferry, even when checked in the field. The layout of the proposed wind farm appears slightly more integrated and less disjointed than the consented scheme. There would not be an appreciable difference between the consented and proposed schemes in terms of turbine size with similar vertical extents of turbines being visible above the ridge (due to the increased distance of larger turbines in the proposal). Both the consented and proposed turbines would dominate the scale of the low wooded ridge seen in the view and significantly affect the appreciation of Stornoway and its setting and I consider that there would be no material difference between the two schemes.

- Views from Gallows Hill (ES Viewpoint 4), which lies within the Lews Castle and Lady Lever Garden GDL. While turbine locations have changed from the consented scheme, in general there would not be an appreciable difference between the consented 145m high turbines and the proposed turbines. It is evident that the design strategy for the proposed wind farm has worked in part in terms of positioning turbines slightly further away and reducing the heights of turbine which lie closer to this sensitive location. Both the consented and proposed schemes feature considerable overlapping of turbines and a dislocated layout with gaps between turbines. I consider that there would be no material difference between the two schemes.

- In views from the Lewis War Memorial the proposed scheme reads as a cohesive grouping of turbines to the south of the existing three Beinn Ghrideag wind turbines but is very disjointed in its layout to the north where a combination of the dislocated groups of turbines within the proposed scheme, complex interactions with existing wind turbines and telecommunications infrastructure, the elongated spread of the wind farm and the close proximity of these turbines to the view contribute to a very substantial adverse impact on views. Turbines 20-31 and 35 appear particularly prominent, overwhelming the scale of small houses and other features in the foreground of this view although this dominating effect also occurred with the closer turbines within the consented scheme. The proposed scheme features fewer outlying turbines but is similarly ‘gappy’ in its layout when compared with the consented scheme. I consider that there would be no material difference between the consented and proposed scheme in this view.

- Views from the A859 near Luirbost (ES Viewpoint 3) where the full height of many of the turbines will be seen within the shallow basin of the site from this stretch of the road. A slightly improved degree of containment is evident in the proposed scheme and although the 180m
high turbines number 3-6 are likely to be particularly prominent in this view, this section of the route is generally less sensitive in terms of existing character.

Overall, the differences between the consented and proposed schemes are not substantial due mainly to the increased distance of larger turbines from more sensitive viewpoints. There are some minor improvements to turbine layout associated with the proposal when compared with the consented scheme although the layout of the proposed wind farm is not optimum in many key views. The requirement for night time lighting however comprises a major difference between the consented and proposed schemes on this site (see comments above).

Conclusions

The proposed development site lies within the Boggy Moor 1 LCT which is generally of lower sensitivity to large scale wind energy development because of its simple landform, landcover and expansive scale. The development site has been identified as being suitable for a large-scale wind farm development in a Scottish Government commissioned study and an existing consent for 36 turbines, 145m high already applies to the site.

This proposal presents an alternative to the consented Stornoway wind farm on the same site and comprises 35 turbines between 156m and 180m high.

In terms of landscape effects associated with the proposal, a key concern is the proximity of the proposed development to Stornoway and the significant adverse effects likely to arise on the appreciation of the town and its intimately scaled and richly diverse landscape setting from the sea. The proposal will also result in widespread significant adverse effects on views extending to around 14km of the proposed development due to the size of turbines and the openness of the landscape. Views from the Ullapool-Stornoway Ferry, from Gallows Hill in the Lews Castle and Lady Lever Park GDL and from the Lewis War Memorial are of key concern due to their high sensitivity.

The proposal seems unlikely to significantly exacerbate the landscape and visual effects associated with the consented scheme. Both schemes are not optimum in their design layout with noticeable gaps and overlapping of turbines occurring from many key viewpoints and both will incur relatively widespread significant adverse landscape and visual impacts. Night time lighting will also be a necessary feature of the proposal (but not the consented scheme) and will incur significant adverse effects (effectively increasing the duration of significant adverse visual effects) within approximately 10km of the development site.

It is recommended that Radar Proximity Activated Lighting should be installed to minimise the duration of night time lighting effects. Redesign of the turbine layout and reductions in the height of some turbines to improve the appearance of the wind farm seen from the Lewis War Memorial would also mitigate effects to some degree although effects on views would remain significant and adverse due to the proximity of the wind farm site to this sensitive viewpoint.

ENVIRONMENT SERVICES

Turbines on sites 20, 21, 22 and 35 are close to the Pentland Road which is part of the promoted Hebridean Way long distance walking and cycling route. This could lead to a potential problem from “ice throw” from the blades in certain weather conditions.

The distance of the closest turbine to the Hebridean Way is 142m this distance does not comply with the CNES Supplementary Guidance for Wind Energy Development. The guidance states: Turbines
should be located at least a minimum distance equivalent to 10 times the blade diameter from any regularly occupied buildings not associated with the development and at least a minimum distance equivalent to the height of the turbine to blade tip plus 10% from public roads or paths identified in the Outer Hebrides Core Paths Plan.

There have been major changes in the populations of birds since the windfarm was originally consented in 2012 increases in bird activity have been seen across the site. White-tailed eagle flight activity has increased over the site since 2012 and the number of red-throated divers breeding in the areas has also increased. The first recorded population of hen harriers breeding on Lewis has been established on the site and surrounding areas since 2015. Wind Farm surveys in 2019 found eight pairs in the survey areas. Although this is a small population, it is the only known establishing population of hen harriers in Scotland and both the UK and Scottish populations are currently declining with a population of just 460 pairs estimated in Scotland, the Lewis population extends the range of the species to the North and West. The collision risk predictions by the developer are very high for white-tailed eagle, red-throated diver, golden eagle and hen harrier. The developer has predicted that over the 25 year operational lifetime of the wind farm 16 white-tailed eagles, 12 red-throated divers, 8 golden eagles and 4 hen harriers will be killed through turbine collisions. The developers population modelling predicts that this level of collisions will have a significant detrimental impact on the future population of these species at the scale of Lewis or the Western Isles. The recommended disturbance free distances around the breeding sites of hen harrier and red-throated diver nest sites are 500-750m but these distances have not been met in several cases. Placing turbines close to nest site risks high collision risk, territory abandonment and disturbance potentially resulting in breeding failure. This should be taken into consideration in terms of the siting of the turbines.

CLEANSING

Question/comment regarding traffic management:

As these turbine components are being taken from Arnish to two access points on the B859, is there specific times of the day and days of the week that these components are to be transported? Cleansing use that stretch of road daily for waste collection, waste disposal at Creed Park and also waste transfers. I would like to minimise any disruption to service where possible and I am also mindful that some of our waste transfers come from the southern isles and are time critical for ferry crossings so would not want traffic management issues to cause missed connections.

ENVIRONMENTAL HEALTH

Recommended noise condition

The rating level of noise emissions from the combined effects of the wind turbines forming part of the Development (including the application of any tonal penalty) shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to this condition at any dwelling which is lawfully existing or has planning permission at the date of this consent. The turbines shall be designed to permit individually controlled operation or shut down at specified wind speeds and directions in order to facilitate compliance with noise criteria and:

a) The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.
b) No electricity shall be exported until the wind farm operator has submitted to the Local Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.

c) Within 21 days from receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a nearby dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise immissions from the wind farm at the complainant’s property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

d) The assessment of the rating level of noise immissions shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits.

e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval proposed noise limits selected from those listed in the Tables to be adopted at the complainant’s dwelling for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables specified for a listed location which the independent consultant considers as being likely to experience the most similar background noise environment to that experienced at the complainant’s dwelling. The rating level of noise immissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant’s dwelling.

f) The wind farm operator shall provide to the Local Planning Authority the independent consultant’s assessment of the rating level of noise immissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority.
Authority with the independent consultant’s assessment of the rating level of noise immissions.

g) Where a further assessment of the rating level of noise immissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant’s assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the Local Planning Authority.

Table 1 – Between 07:00 and 23:00 – Noise limits expressed in dB LA90, 10 minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods

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<tr>
<th>Location</th>
<th>Standardised wind speed at 10 meter height (m/s) within the site averaged over 10-minute periods</th>
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<td>3</td>
</tr>
<tr>
<td>1:Gleann Ur North</td>
<td>36.5</td>
</tr>
<tr>
<td>2:Cnoc Uilleam Chubair</td>
<td>36.5</td>
</tr>
<tr>
<td>3:Gleann Ur</td>
<td>36.5</td>
</tr>
<tr>
<td>4:Bennadrove Road</td>
<td>35</td>
</tr>
<tr>
<td>5:Cnoc Mairi</td>
<td>35</td>
</tr>
<tr>
<td>6:Creed Bridge</td>
<td>38</td>
</tr>
<tr>
<td>7:Druim Dubh</td>
<td>45</td>
</tr>
<tr>
<td>8:Macaulay Farm</td>
<td>39.4</td>
</tr>
</tbody>
</table>

*Figures as per background noise assessment in S.9 of SWF EIA report 2011 taking into account 35dB LA90, 10min or the Day-time Hours LA90, 10min Background Noise Level plus 5bB(A), whichever is the greater;

Table 2 – Between 23:00 and 07:00 – Noise limits expressed in dB LA90, 10-minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

<table>
<thead>
<tr>
<th>Location</th>
<th>Standardised wind speed at 10 meter height (m/s) within the site averaged over 10-minute periods</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>1:Gleann Ur North</td>
<td>38</td>
</tr>
<tr>
<td>2:Cnoc Uilleam Chubair</td>
<td>38</td>
</tr>
<tr>
<td>3:Gleann Ur</td>
<td>38</td>
</tr>
<tr>
<td>4:Bennadrove Road</td>
<td>38</td>
</tr>
<tr>
<td>5:Cnoc Mairi</td>
<td>38</td>
</tr>
<tr>
<td>6:Creed Bridge</td>
<td>45</td>
</tr>
<tr>
<td>7:Druim Dubh</td>
<td>38</td>
</tr>
</tbody>
</table>

*Figures as per background noise assessment in S.9 of SWF EIA report 2011 taking into account 38dB LA90, 10min or the night Hours LA90, 10min Background Noise Level plus 5bB(A), whichever is the greater;
Table 3: Coordinate locations of the properties listed in Tables 1 and 2.

<table>
<thead>
<tr>
<th>Property</th>
<th>Grid Reference</th>
<th>Easting</th>
<th>Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Gleann Ur North</td>
<td>NB 40930 34980</td>
<td>140930</td>
<td>934980</td>
</tr>
<tr>
<td>2: Cnoc Uilleam Chubair</td>
<td>NB 41070 35580</td>
<td>141070</td>
<td>935580</td>
</tr>
<tr>
<td>3: Gleann Ur</td>
<td>NB 40750 34530</td>
<td>140750</td>
<td>934530</td>
</tr>
<tr>
<td>4: Bennadrove Road</td>
<td>NB 40560 34280</td>
<td>140560</td>
<td>934280</td>
</tr>
<tr>
<td>5: Cnoc Mairi</td>
<td>NB 40440 33960</td>
<td>140440</td>
<td>933960</td>
</tr>
<tr>
<td>6: Creed Bridge</td>
<td>NB 40417 32666</td>
<td>140417</td>
<td>932666</td>
</tr>
<tr>
<td>7: Druim Dubh</td>
<td>NB 38330 30520</td>
<td>138330</td>
<td>930520</td>
</tr>
<tr>
<td>8: Macaulay Farm</td>
<td>NB 40120 32150</td>
<td>140120</td>
<td>932150</td>
</tr>
</tbody>
</table>

Note to Table 3: The geographical coordinate references are provided for the purpose of identifying the general location of dwellings to which a given set of noise limits applies.

**Guidance Notes for Noise Conditions**

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise immissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled “The Assessment and Rating of Noise from Wind Farms” (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

**Guidance Note 1**

a) Values of the LA90, 10 minute noise statistic should be measured at the complainant’s property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant’s dwelling. Measurements should be made in “free field” conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.
c) The LA90, 10 minute measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10 minute arithmetic average mean wind speed data measured at hub height shall be ‘standardised’ to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10 metre height wind speed data, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10-minute increments thereafter.

e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

Guidance Note 2

The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b)

a) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

b) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90, 10 minute noise measurements and corresponding values of the 10-minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, “best fit” curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise
condition, noise immissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

b) For each 10 minute interval for which $L_{A90,10 \text{ minute}}$ data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available (“the standard procedure”). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104-109 of ETSU-R-97.

d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.

e) A least squares “best fit” linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the “best fit” line at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.

f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.

Guidance Note 4

a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed
is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant’s dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.

d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.

h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant’s dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant’s dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.