



Appendix 2.3

Further Consultation

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Consultee Correspondence

Introduction

1. This appendix provides detail on consultee correspondence, prior to and following the receipt of the Environmental impact Assessment (EIA) Scoping Opinion on 2 October 2020. This appendix should be read in conjunction with **Chapters 5-13** of the Environmental Impact Assessment Report (EIAR).

Arqiva

Chapter 13: Other Issues – Radio Transmission Links



28 September 2020

Re: WSP - Carrick Wind Farm coordinates

Dear [REDACTED]

Response by Arqiva

Thank you for the opportunity to review and comment on the above development.

Arqiva is responsible for providing the BBC, ITV and the majority of the UK's radio transmission network and is responsible for ensuring the integrity of Re-Broadcast Links. Tall infrastructure such as wind turbines and other tall structures have the potential to block radio transmission links and rebroadcasting links (through direct blocking of radio signal or deflecting signal). Our radio transmission networks normally operate with a 100m buffer either side of a radio link, free from interference by tall development.

We have considered whether this development is likely to have an adverse effect on our operations and have concluded that we have no objections to this development.

If you would like to discuss this matter further, please do make contact. My email details are [REDACTED]

Yours faithfully

[REDACTED]

Arqiva

[REDACTED]

ATKINS

Chapter 13: Other Issues – Telecommunication Links

From: Windfarms <windfarms@atkinsglobal.com>
Sent: 29 September 2020 03:45
To: [REDACTED]
Subject: WF33367 - South Ayrshire, Scotland, T1-T13 -NX 34298 99031: WSP - Carrick Wind Farm coordinates

Dear Sirs,

I am responding to an email of 15-09-2020, regarding the above named proposed development.

The above application has now been examined in relation to UHF Radio Scanning Telemetry communications used by our Client in that region and we are happy to inform you that we have **NO OBJECTION** to your proposal.

Please note that this is **not** in relation to any Microwave Links operated by Scottish Water

Atkins Limited is responsible for providing Wind Farm/Turbine support services to TAUWI.

Atkins Limited is responsible for providing Wind Farm/Turbine support services to the Telecommunications Association of the UK Water Industry. Web: www.tauwi.co.uk

Windfarm Support

ATKINS

The official engineering design services provider for the London 2012 Olympic and Paralympic Games

Web: www.atkinsglobal.com/communications

Ayrshire Rivers Trust

Chapter 7: Ecology and Biodiversity – Freshwater Pearl Mussels

From: [REDACTED]
Sent: 14 July 2020 16:38
To: [REDACTED]
Subject: Re: Carrick Windfarm Data Request

Hi [REDACTED]

I have forwarded a copy of our response to the email provided in the ECU email.

There are no known FWPM populations within the River Stinchar so this can be removed from the scoping for this catchment. I can provide you locations of the FWPM's on the Water of Girvan, due to the confidentiality aspect of this information I can provide you all known locations for £250. If this can be added to the PO, once received I will provide all of the requested data as one.

Kind regards

[REDACTED]
Biologist and Project Manager



T| 01292737300 W| www.ayrshiriverstrust.org
A| Ayrshire Rivers Trust, 1 Gibbs Yard, Auchincruive Estate, Ayr, KA6 5HW

A Scottish Registered Charity: 030426

Dumfries and Galloway Council

From: [REDACTED]
Sent: 29 October 2020 10:11
To: [REDACTED]
Subject: RE: EXTERNAL: Carrick Wind Farm Gatecheck Consultation

OFFICIAL

Good Morning [REDACTED]

I can confirm that Dumfries and Galloway Council have no comments to make over and above those made to the Scoping opinion.

Kind regards,

[REDACTED]

[REDACTED]
Senior Planner | (Major Development)
Dumfries & Galloway Council

OFFICIAL

East Ayrshire Council

Chapter 5: Landscape and Visual – Craigengillan Estate Viewpoint

Economy and Skills
Depute Chief Executive and Chief Financial Officer
[REDACTED]



Interim Head of Planning and Economic Development [REDACTED]
[REDACTED]

Development Planning and Regeneration

Office location [REDACTED]

Direct Dial: Please email
Email: [REDACTED]

Date: 18 November 2020

Dear [REDACTED]

CARRICK WINDFARM GATECHECK CONSULTATION

Thank you for consulting with East Ayrshire Council on the above request for a Gatecheck opinion.

I note that the Gatecheck request is for the proposed Carrick Windfarm, comprising a revised and final layout of 13 turbines with blade tip heights of up to 200m and including the potential for co-located technologies (e.g. energy storage). The application site and proposed access to the site is entirely located within South Ayrshire. The site of the proposed development is located approximately 5km to the north of the Merrick Kells SAC/SSSI, 7.6km to the south-west of the Bogton Loch SSSI and the Merrick Wild Land Area; each SSSI is partially located in East Ayrshire.

East Ayrshire Council (the Council) has reviewed the 'Gatecheck Report' and offers the following comments in respect of the issues pertinent to East Ayrshire.

Landscape and Visual Impact Assessment

The applicant has noted that the Council stated in its response to the Scoping Report that it is content with its proposed approach to landscape and visual impact assessment. Cumulative windfarms within the Council area will be included by the applicant within the landscape and visual assessment; these are depicted in the EIAR. The applicant will also include a 30km Study Area.

The Council requested that an additional viewpoint be provided within the Craigengillan Garden and Designed Landscape in East Ayrshire so that an understanding could be gained of the visual impact proposed wind turbines might have. However, whilst the applicant considers at this time that there will not be a significant effect on the garden and designed landscape, the ZTV provided in their Scoping consultation document titled 'Heritage Assets within 10km' demonstrates that the blade tips of 8 to 13 turbines would be visible from elevated portions of the Craigengillan Garden and Designed Landscape.

The applicant has stated that 'the majority of the Craigengillan GDL will not have any potential visibility of the Proposed Development, except for its north western extents. Our Cultural Heritage team will be assessing impacts on the Craigengillan GDL, and will include a wireline from this area with the greatest visibility in the north west of the policies. This also overlaps with an undesignated heritage

Historic Environment Scotland

Chapter 10: Archaeology and Cultural Heritage – Further EIA Scoping Advice



asset deemed to be of significance by WoSAS. Our Landscape team will consider Craigengillan in terms of its contribution to the character of the area and visual amenity on visitors, which includes reference to the Dark Sky Observatory viewpoint.'

Subject to a wireline being produced, the Council are broadly content with this approach at this time. Notwithstanding, we will comment further on receipt of this wireline.

Turbine Lighting Assessment

The applicant has noted that the Council stated in its response to the Scoping Report that it is broadly content with its approach to wind turbine lighting assessment. The applicant has also noted the Council's suggestion that consideration be given to the use of aviation activated lighting. The applicant will include a response to this request for aviation activated lighting in the EIA. The Council is broadly content with this proposed approach.

Ecology and Biodiversity

The applicant has noted that the Council stated in its response to the Scoping Report that it is content with its proposed approach to ecology and ornithology (subject to the assessment of NatureScot). The Council notes that mitigation of any significant effects upon ecological receptors is intended to be undertaken through the design process. It is intended by the applicant that those effects that cannot be mitigated will be reduced and prevented; information on how this might take place will be detailed in the Environmental Impact Assessment Report. The applicant will present this information in the EIA. The Council is broadly content with the approach proposed to be taken to ecology, subject to the assessment of NatureScot.

Traffic and Transport

The Council has advised that Ayrshire Roads Alliance, which is jointly administered by East Ayrshire Council and South Ayrshire Council, be consulted on the transportation impacts of the proposed development. The applicant has consulted Ayrshire Roads Alliance on the traffic and transportation impacts of the Proposed Development and Ayrshire Roads Alliance has provided a response. The Council's position on this matter aligns with Ayrshire Roads Alliance's position.

Should you require any further information on the points raised above or wish to discuss any matter, then please contact Peter Atkinson on the number above or on [REDACTED]

Yours sincerely

[REDACTED]
Principal Planning Officer

[REDACTED]
Development Planning and Regeneration Manager

By email to: [REDACTED]

[REDACTED]
WSP
Lanark Court
Ellismuir Way
Tannochside
Glasgow
G71 5PW

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

29 October 2020

Dear [REDACTED]

[The Electricity Works \(Environmental Impact Assessment\) \(Scotland\) Regulations 2017](#)
[Carrick Wind Farm, South Ayrshire](#)
[Further EIA Scoping Advice](#)

Thank you for seeking further advice from Historic Environment Scotland on the scope of an environmental impact assessment (EIA) to be undertaken in support of the Carrick wind farm proposals, South Ayrshire.

From attending a recent meeting held by the Energy Consents Unit (ECU) on 29 September 2020, we understand that changes have been made to the wind farm layout since we provided our initial EIA scoping advice on 3 June 2020. We note that the number of proposed turbines has been reduced from 17 to 13, and that the layout has been adjusted to bring the turbines into the centre of the site as much as possible.

We therefore welcome the provision of a new layout drawing (Option 1E - infrastructure layout), additional ZTV information and draft wireframe visualisations and have reviewed these for our historic environment interests. This covers world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs). The West of Scotland Archaeology Service (WoSAS) will also be able to offer advice on the scope of the cultural heritage assessment.

Additional EIA Scoping Advice

We welcome where changes have been made to the development proposals to reduce and avoid impacts on the Category A listed Kilkerran House (LB1114) and its associated designed landscape (GDL238). We do, however, note that there remains some potential for impacts on the setting of these heritage assets and recommend that consideration is given to this in any EIA undertaken. In particular, we recommend that consideration is given to the potential for impacts on the setting of the designed landscape caused by the appearance of turbines in views from the B741 towards Kilkerran House. We

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Scottish Charity No. **SC045925**
VAT No. **GB 221 8680 15**



recommend that this assessment should be supported by a visualisation of the proposals from a point just east of the Aird Bridge.

Similarly, while we note that impacts on the setting of the category A listed Blairquhan House (LB19094) and the core of its designed landscape are reduced, there remains some potential for impacts on the northern part of the inventory designed landscape (GDL63). We therefore also recommend that consideration is given to impacts on this inventory designed landscape and its setting, with particular attention given to views from the Kings Hill.

Further to this, we note that some of the adjustments undertaken to the development proposals have resulted in additional visibility of the wind farm proposals to the north and west. We therefore suggest that, in addition to the heritage assets identified in our letter of 3 June 2020, any EIA should give attention to the potential for impacts on the setting of the below heritage assets.

- **Dalquharran Castle including Stable Range (Category A listed building, LB125)**
Any EIA should give consideration to the potential for impacts on the setting of Dalquharran House caused by the appearance of turbines in important views from the house looking across the Girvan Water towards the development site.
- **Bargany House (Category A listed building, LB1171, and Inventory Designed Landscape, GDL47)**
Any EIA should give consideration to impacts on the setting of the Bargany Inventory Designed Landscape. We recommend that particular attention is given to impacts caused by the appearance of turbines in views from the north parkland looking into the core of the landscape including the house and walled garden.

As set out in our previous letter, we recommend that impacts on the setting of heritage assets should be assessed using photomontage and wireframe visualisations where impacts are likely to be highest. In line with this, we would welcome further discussion on the selection of visualisation viewpoints. We also note the potential for cumulative impacts on the setting of heritage assets caused by the proposed development in combination with other existing, proposed and consented wind farms in the surrounding area. We would therefore recommend that cumulative impacts are assessed and examined through the use of cumulative visualisations.

Further information

A new Historic Environment Policy for Scotland (HEPS, 2019) was adopted on the 1st May 2019, which replaces the Historic Environment Scotland Policy Statement (HESPS,

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Scottish Charity No. **SC045925**
VAT No. **GB 221 8680 15**

2016). The new Historic Environment Policy for Scotland is a strategic policy document for the whole of the historic environment and is underpinned by detailed policy and guidance. This includes our Managing Change in the Historic Environment Guidance Notes. All of these documents are available online at www.historicenvironment.scot/heps.

Practical guidance and information about the EIA process can also be found in the EIA Handbook (2018). This is available online at <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0>

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is [REDACTED] and they can be contacted by phone on [REDACTED] or by email on [REDACTED]

Yours faithfully,

Historic Environment Scotland

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**
VAT No. **GB 221 8680 15**

Chapter 10: Archaeology and Cultural Heritage – Gatecheck Report Response

 HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

By email to: [REDACTED]

Mr [REDACTED]
Energy Consents Unit
2nd Floor
Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

[REDACTED]

[REDACTED]

29 October 2020

Dear [REDACTED]

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Carrick Wind Farm, South Ayrshire
Gatecheck Report (October 2020)

Thank you for your consultation of 28 October 2020 regarding the Gatecheck Report (October 2020) for the Carrick wind farm proposals in South Ayrshire. We have reviewed the Report for our historic environment interests. That is, scheduled monuments and their setting, category A listed buildings and their setting, and gardens and designed landscapes and battlefields appearing in their respective Inventories.

We also recommend that you contact the West of Scotland Archaeology Service (WoSAS) for advice on the Gatecheck Report (October 2020).

Gatecheck Report (October 2020)

We have reviewed the Gatecheck Report (October 2020) for our historic environment interests and can confirm that we are content with the summary of our engagement on this project so far. Further to this, we have recently issued additional EIA scoping advice (attached) following changes to the proposed development layout. We are continuing to engage with the developer and their team on these proposals and look forward to reviewing an application for consent with an associated EIA Report in due course.

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is [REDACTED] and they can be contacted by phone on [REDACTED] or by email on [REDACTED]

Yours faithfully,

Historic Environment Scotland

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH
Scottish Charity No. **SC045925**
VAT No. **GB 221 8680 15**

NatureScot

Chapter 5: Landscape and Visual – 2021 Consultation

From: [REDACTED]
Sent: 11 October 2021 14:17
To: [REDACTED]
Subject: FW: Carrick Wind farm - LVIA matters - proposed changes to turbine dimensions

Dear [REDACTED]

Many thanks for providing NatureScot with an opportunity to Comment on the proposed changes to the turbine options and potential realistic worst-case scenario for landscape and visual effects in relation to Carrick wind farm.

We welcome the opportunity to respond to this consultation for a realistic worst-case scenario for turbine metrics in relation to landscape and visual effects. We also appreciate the chance to request additional assessment viewpoints from within the Merrick Wild Land Area.

Based on the submitted comparative wirelines for the minor road below Cornish Hill we are content with the use of 125m hub plus 150m rotor diameter to represent the worst-case scenario for landscape and visual effects. Whilst we acknowledge that longer blades and an associated larger blade-swept area are likely to be more eye-catching, we are keen to ensure that the maximum theoretical visibility of aviation lighting will be fully represented.

Since our earlier advice for the scoping [18 June 2020] and Gatecheck [12 November 2020] stages for Carrick, we have responded to the application for the nearby Craiginmoddie wind farm. The Carrick applicants may be aware that we requested further information for Craiginmoddie once we became fully aware of the likely visibility of turbines from within the northern interior of the Merrick Wild Land Area (WLA) near to Loch Girvan Eye and Craigasheenie.

This correspondence can be found at ECU website[
<https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00002196>] for Craiginmoddie in 'Documents' page 1 entitled 'Applicant's Clarification to NatureScot on request of Merrick WLA wirelines K-M'.
We would be happy to forward this to you if requested.

Reviewing the originally submitted ZTV for Carrick (Scoping Figure 5.3) and consideration of figures K-M submitted for Craiginmoddie, it is clear that there is likely to be significant visibility of Carrick turbines from within the northern eastern interior of the WLA.

Accordingly we advise that appropriate additional viewpoints are included in the EIA / LVIA and they are also used to inform the Wild Land Assessment including likely impacts of lighting.

Craiginmoddie and other relevant wind farms should be considered in the cumulative assessment(s), including in a cumulative assessment of lighting impacts.

I hope you find these comments of value, please feel free to get back in touch as required

Best wishes

[REDACTED]

[REDACTED] | NatureScot Operations Officer - Strathclyde & Ayrshire



MEMO

TO	NatureScot South Ayrshire Council Landscape Officer	FROM	WSP
DATE	28 September 2021	CONFIDENTIALITY	Confidential
SUBJECT	Carrick Windfarm – LVIA and Realistic Worst-Case Scenario for Wind Turbine Dimensions		

Since our last consultation with regards to the Landscape and Visual Impact Assessment (LVIA) for ScottishPower Renewables (SPR's) proposed Carrick Windfarm there have been some changes in the candidate turbine models being considered. We are writing to inform you about our choice of turbine as the realistic worst-case scenario for the purposes of our assessment given it is not always an obvious decision for landscape and visual considerations.

SPR are now considering a larger rotor diameter for Carrick Windfarm but retaining the blade-tip height at 200m. The options currently proposed are turbines with a 150m or up to a 170m rotor diameter. The 150m rotor diameter turbines would have a 125m hub height, and the 170m rotor diameter turbines would have a 115m hub height. Acknowledging the proportions of the turbine would look different and the 10m difference in hub height, we have undertaken a study to consider what would constitute the worst-case for potential landscape and visual effects to be assessed in the LVIA chapter of our Environmental Impact Assessment Report (EIAR).

Comparison wirelines of turbines with 170m and 150m rotor diameters from viewpoints around the Study Area have been reviewed. The comparative wireline from Viewpoint 1 (minor road near Cornish Hill, south of the Site) is attached to this memo for your information. The wirelines illustrate that the 10m difference in hub height and 20m difference in rotor diameter are not easily perceptible, particularly in contrast to the scale of the overall turbine. We consider that the larger rotor diameter would not make a difference in the level of effects that would be assessed on landscape and visual receptors.

In terms of changes to extent of visibility, we considered it was not necessary to produce a comparative ZTV as it would in our experience show very little change given only the 10m height difference and the tolerances within the digital terrain model. We however can confidently make the assumption that the hubs at 125m would be visible across a slightly wider area than the 115m hub height (noting the extent of visibility of the 200m blade tip height for all options remains the same). This also means that the aviation lighting on the nacelle and tower on the taller hub height (125m) would be visible from a wider area than those on a 115m hub height. It is unlikely to be a substantial difference in visibility, but potentially most noticeable in closer locations where the taller hub height may become visible above the surrounding landform which would otherwise screen the smaller hub height.

On the basis of the above findings, particularly driven by the slightly wider extent of hub visibility and associated turbine aviation lighting, we have determined that the 150m rotor diameter turbine (125m hub height and 200m blade tip height) is the realistic worst-case for our LVIA. We are therefore proceeding with our LVIA using this turbine envelope. Please do not hesitate to contact me if you would like to discuss further. If you do have an issue with this approach, please let us know as soon as possible.

Please note that other topics within the EIAR will be determining their own worst-case wind turbine relevant to their assessment.

Kind regards,



Associate Director - Landscape Architect

Chapter 5: Landscape and Visual – Statutory Consultee Meeting Follow-up

From: [Redacted]
Sent: 23 October 2020 12:05
To: [Redacted]
Cc: [Redacted]
Subject: RE: Carrick Windfarm, Statutory Consultee Meeting - 200920: Recording

Hi [Redacted]

Thank you. I've set out some specific questions below:

Can you please confirm that a wireline only from Benyellary is acceptable following the reasons presented in our email on 13th October?

You mentioned that that *"In our Clauchrie Wind Farm discussions we agreed that Benyellary could be used as a representative viewpoint for views of aviation lighting from the southern part of the ridge (i.e. as a proxy for Merrick itself). Night time visualisations in that case included wind farms to the south west of the Merrick WLA (such as Arecleoch Extension)."* We would be keen to discuss this approach of modelling lighting on cumulative windfarms within the view as this was not immediately obvious in Figure 6.50f of the Clauchrie Windfarm EIA Visualisations. Also, as we detailed below in our email sent on 13/10/20 we feel that Shalloch on Minnoch is more appropriate for our assessment.

We propose presenting our night-time visualisation at 200cd lighting as a realistic worst case scenario. This is based on the fact that 2000cd would only be on in poor visibility <5km. We understand this was discussed and agreed with NatureScot for SPR's Eucharhead project and we would look to discuss this with Caroline for Carrick Windfarm.

With regards to the written approach/structure to the Wild Land Assessment (WLA), we have reviewed the Clauchrie WLA and NatureScot's response and wanted to discuss any feedback relating to the approach on Clauchrie EIA WLA that you consider potentially relevant to Carrick Windfarm EIA WLA?

We would also be grateful if you could confirm agreement to the 30km Study Area for LVIA and cumulative assessment as set out since Scoping. This has been agreed with Carol Anderson at SAC but we note we don't have an official response from NatureScot.

Kind regards,



From: [REDACTED]
Sent: 14 October 2020 10:47
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Windfarm, Statutory Consultee Meeting - 200920: Recording

Hi [REDACTED]
Thanks for sending through the updated ZTV and cumulative wirelines and for your comments/response to our e-mail of 30 September 2020.

[REDACTED] is currently on a/l therefore could you set out any specific questions/queries you have in an e-mail and we will respond to these once she's back from leave.

Many thanks

[REDACTED]
NatureScot | Caspian House, Clydebank Business Park, G81 2NR | 0131 314 6778
nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

From: [REDACTED]
Sent: 13 October 2020 18:10
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Windfarm, Statutory Consultee Meeting - 200920: Recording

Dear [REDACTED]

Thank you for your email.

Please find attached an updated A1 ZTV for Carrick, and illustrative 90 degree cumulative wirelines for Benyellary and Shalloch on Minnoch to share with Caroline Read. We have also addressed your comments made on the call on the 29 September and in your email of 30 September 2020 (black italic text) below – our comments / responses are in blue text.

As promised here is the link to the published new guidance: Assessing Impacts on Wild Land Areas: Technical Guidance available on our website at:
<https://www.nature.scot/professional-advice/landscape/landscape-policy-and-guidance/wild-land/wild-land-area-descriptions-and-assessment-guidance> this guidance can also be downloaded as a pdf at:
<https://www.nature.scot/sites/default/files/2020-09/Guidance%20-%20Assessing%20impacts%20on%20Wild%20Land%20Areas%20-%20technical%20guidance.pdf>
Thank you for sharing this with us.

With regards to the revised list of VP's sent round on the 21 September 2020 we have the following comments:
We have not seen revised ZTVs (to blade tip and to nacelle) for the 13 turbine layout. Notwithstanding this the revised list of viewpoints appears to cover a good range of receptors and is acceptable. However, we reserve the option to request additional viewpoints if it emerges that a particular receptor or issue has not been fully covered.
Please find attached an updated A1 ZTV for Carrick.

As a general comment we note that some viewpoints have no super scripts (suggesting they will not have photomontages, nor be a cumulative nor night time viewpoint) so it's not clear what they will indicate i.e. Viewpoints 9, 10, 14 and 23.
All our viewpoints will include cumulative sites – the VP list just highlighted which views were chosen particularly for cumulative effects.

We recommend VP5 - Shalloch on Minnoch – at the northern end of the west-facing Merrick ridge should be a cumulative viewpoint.

Agree, we are including cumulative sites within a 3 x 90 degree field of view (please see attached).

The worst case scenario for night time lighting should be fully taken into account in the assessment. We note the inclusion of VP5 as a 'night time view' but consider that an additional night time viewpoint further south should be considered. In our Clauchrie Wind Farm discussions we agreed that Benyellary could be used as a representative viewpoint for views of aviation lighting from the southern part of the ridge (i.e. as a proxy for Merrick itself). Night time visualisations in that case included wind farms to the south west of the Merrick WLA (such as Arecleoch Extension). We would welcome further discussion regarding an acceptable approach to representing potential aviation lighting in the LVIA.

We have provided a wireline from Benyellary which illustrates the position of Carrick within the cumulative context, noting that more than half of the turbines would be screened by the intervening landform. We have looked at moving the view around the Benyellary area but the position of the Proposed Development located north of the Shalloch of Minnoch will always limit full views of the Proposed Development from this part of the WLA. We understand the nature of the request to consider the cumulative effects of aviation lighting but we would suggest that it would be possible to ascertain from the wirelines without necessarily obtaining night photography or producing photomontages from the Benyellary viewpoint. We will be producing a night view photomontage from the Shalloch on Minnoch viewpoint (see wireline attached) which includes the full scheme and also proposed Craiginmoddie Windfarm. We do have 360 degree views from here at night so could extend the night views from the standard 53.5 degrees to include the wider cumulative context to the west where Clauchrie and Arecleoch Ext would be visible, and to the windfarms in the north east.

We would like to organise a call with [REDACTED] as soon as possible to discuss the above and also details of the approach to the Wild Land Assessment. If you could please let me know whether we can contact [REDACTED] directly, or when a good time would be to arrange a call.

Kind regards,

[REDACTED]

[REDACTED]
Associate Director (Landscape and Urban Design)

wsp

From: [REDACTED]
Sent: 30 September 2020 16:53
To: [REDACTED]
Cc: [REDACTED]
Subject: EXTERNAL: RE: Carrick Windfarm, Statutory Consultee Meeting - 200920: Recording

Hi [REDACTED]
Thanks for sending the recording of the meeting through.

As promised here is the link to the published new guidance: *Assessing Impacts on Wild Land Areas: Technical Guidance* available on our website at:
<https://www.nature.scot/professional-advice/landscape/landscape-policy-and-guidance/wild-land/wild-land-area-descriptions-and-assessment-guidance> this guidance can also be downloaded as a pdf at:
<https://www.nature.scot/sites/default/files/2020-09/Guidance%20-%20Assessing%20impacts%20on%20Wild%20Land%20Areas%20-%20technical%20guidance.pdf>

With regards to the revised list of VP's sent round on the 21 September 2020 we have the following comments:

We have not seen revised ZTVs (to blade tip and to nacelle) for the 13 turbine layout. Notwithstanding this the revised list of viewpoints appears to cover a good range of receptors and is acceptable. However, we reserve the option to request additional viewpoints if it emerges that a particular receptor or issue has not been fully covered.

As a general comment we note that some viewpoints have no super scripts (suggesting they will not have photomontages, nor be a cumulative nor night time viewpoint) so it's not clear what they will indicate i.e. Viewpoints 9, 10, 14 and 23.

We recommend VP5 - Shalloch on Minnoch – at the northern end of the west-facing Merrick ridge should be a cumulative viewpoint.

The worst case scenario for night time lighting should be fully taken into account in the assessment. We note the inclusion of VP5 as a 'night time view' but consider that an additional night time viewpoint further south should be considered. In our Clachrie Wind Farm discussions we agreed that Benyellary could be used as a representative viewpoint for views of aviation lighting from the southern part of the ridge (i.e. as a proxy for Merrick itself). Night time visualisations in that case included wind farms to the south west of the Merrick WLA (such as Arecleoch Extension). We would welcome further discussion regarding an acceptable approach to representing potential aviation lighting in the LVIA.

I hope these comments are useful to you at this stage.

Kind Regards

██████████ | Area Officer

NatureScot | Caspian House, Clydebank Business Park, G81 2NR | 0131 314 6778

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

Chapter 5: Landscape and Visual – Gatecheck Report Response

From: ██████████
Sent: 23 November 2020 14:15
To: ██████████
Cc: ██████████
Subject: Carrick Windfarm - LVIA response to Gatecheck Report

Dear ██████████

Thank you for your responses to Landscape and Visual matters for the proposed Carrick Windfarm in the recent Gatecheck report (12th November 2020).

We can confirm we will produce an illustrative wireline from Arran and cumulative lighting photomontage from Shalloch on Minnoch. We will also show the existing night and day photography from Benyellary with accompanying wirelines.

We would however like to discuss the approach to the lighting photomontages and your response below.

"With regards to the night time visualisations, we note that WSP currently propose to use 200cd lighting as a worst case scenario, however we advise that separate visuals are produced to show both 200cd and 2000cd lighting. This is because we have limited confidence that the brightness of the lights is correctly or consistently represented with photomontages of 200cd lighting. Our experience shows that the visibility of aviation lights and their perceived strength depends on the night time lighting context. There is also some doubt as to how well the dimming of the lights works in the real world where conditions cover a huge range of variability. Production of visuals at 200cd and 2000cd will help to clarify the lighting scenarios and ensure that aviation lighting effects are not underplayed."

We have set out that we would present our lighting montages at 200cd. The turbine lighting (controlled by sensors installed on the turbines) would have automatic dimming of the lights to a nominal intensity of 200cd during periods of meteorological visibility in excess of 5 km. This embedded mitigation is included within our assessment. Noting your point about the night time lighting context, our viewpoint night photography is taken in clear conditions and representing lighting at 2000cd would not represent a situation that would ever occur and would unnecessarily exaggerate the lighting. Presenting 200cd only in photomontages was the approach taken recently for SPR's Eucharhead Windfarm and Harestanes South Extension Windfarm.

We acknowledge there are limitations in modelling lighting into photomontages with numerous variables to consider, and ultimately the photomontages are only a representation and an aid to the assessment. We do not think that producing 2000cd lighting montages on the night photography we have would provide clarification – it has more potential to confuse matters. We are happy to discuss further, but on the basis of the aforementioned reasons we propose to continue to show only 200cd in our photomontages.

Kind regards,

██████████

From: [REDACTED]
Sent: 26 November 2020 13:45
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA response to Gatecheck Report

Dear [REDACTED]

Firstly, allow me to introduce myself as the NatureScot officer now responsible for this windfarm consultation – I have taken over from [REDACTED] so please feel free to direct all correspondence to me in regard to this development

With regards to your email[below] thank you for confirming that you will be producing an illustrative wireline from Arran and cumulative lighting photomontage from Shalloch on Minnoch as well as showing the existing night and day photography from Benyellary with accompanying wirelines.

With respect to your concerns about the validity of our asking for additional 2000cd lighting information, I hope the following will help you understand our requirement for this information in this particular application, which is that much closer to the Merrick Wildland area than the other two previously consulted over windfarms mentioned in your email.

- The principle of EIA and particularly visualisations is that it must illustrate the worst case scenario (rather than a typical scenario). This is why we request that the LVIA includes photographs taken on a good clear day even when that might not be typical.
- It states in the 2017 [CAA policy](#) statement (para 4.g) that the 10% reduction in lighting intensity from 2000cd to 200cd relies on good visibility “in all directions”. Hence it is entirely feasible that visibility will be better one side of the wind farm than the other. In such a scenario the lights will be at 2000cd even if there is clear visibility on one side of the development. 2000cd is therefore the worst case scenario that should be illustrated and it is essential that this is included in order for us to provide our advice.
- Please do include 200cd in addition to 2000cd if you believe that is more typical but it is important 2000cd lights are shown as they are the essential, worst case scenario lights we need to see.
- As such, we again request that night time lighting photomontages are produced for Carrick wind farm which show 2000cd lighting scenarios.

I hope this clarifies our position on this matter but please do feel free to contact me to discuss further as required

Best wishes

[REDACTED]

Chapter 5: Landscape and Visual – Proposed Changes to Wind Turbine Options and Potential Realistic Worst Case Scenario

From: [REDACTED]
Sent: 11 October 2021 14:17
To: [REDACTED]
Subject: FW: Carrick Wind farm - LVIA matters - proposed changes to turbine dimensions

Dear [REDACTED]

Many thanks for providing NatureScot with an opportunity to Comment on the proposed changes to the turbine options and potential realistic worst-case scenario for landscape and visual effects in relation to Carrick wind farm.

We welcome the opportunity to respond to this consultation for a realistic worst-case scenario for turbine metrics in relation to landscape and visual effects. We also appreciate the chance to request additional assessment viewpoints from within the Merrick Wild Land Area.

Based on the submitted comparative wirelines for the minor road below Cornish Hill we are content with the use of 125m hub plus 150m rotor diameter to represent the worst-case scenario for landscape and visual effects. Whilst we acknowledge that longer blades and an associated larger blade-swept area are likely to be more eye-catching, we are keen to ensure that the maximum theoretical visibility of aviation lighting will be fully represented.

Since our earlier advice for the scoping [18 June 2020]and Gatecheck [12 November 2020] stages for Carrick, we have responded to the application for the nearby Craiginmoddie wind farm. The Carrick applicants may be aware that we requested further information for Craiginmoddie once we became fully aware of the likely visibility of turbines from within the northern interior of the Merrick Wild Land Area (WLA) near to Loch Girvan Eye and Craigmasheenie. This correspondence can be found at ECU website[<https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00002196>] for Craiginmoddie in ‘Documents’ page 1 entitled ‘ *Applicant’s Clarification to NatureScot on request of Merrick WLA wirelines K-M*’. We would be happy to forward this to you if requested.

Reviewing the originally submitted ZTV for Carrick (Scoping Figure 5.3) and consideration of figures K-M submitted for Craiginmoddie, it is clear that there is likely to be significant visibility of Carrick turbines from within the norther eastern interior of the WLA.

Accordingly we advise that appropriate additional viewpoints are included in the EIA / LVIA and they are also used to inform the Wild Land Assessment including likely impacts of lighting. Craiginmoddie and other relevant wind farms should be considered in the cumulative assessment(s), including in a cumulative assessment of lighting impacts.

I hope you find these comments of value , please feel free to get back in touch as required

Best wishes

[REDACTED]

From: [REDACTED]
Sent: 30 September 2021 12:19
To: [REDACTED]
Cc: [REDACTED]
Subject: Carrick Windfarm - LVIA matters

Dear [REDACTED]

I am emailing with regard to SPR’s Carrick Windfarm proposals, specifically a change to the proposed turbine options and potential realistic worst-case scenario for landscape and visual effects. We have set out a memo (attached) which provides the details and our approach. As stated in the memo, if you have any comments or queries on our approach please don’t hesitate to contact me. We are finalising our assessments at the moment, so if you do not agree with our decision I’d be grateful if you could contact me as soon as possible.

Kind regards,

[REDACTED]

Chapter 7: Ecology and Biodiversity – Great Crested Newt Survey Area



██████████
Operations Officer (Strathclyde and Ayrshire)
NatureScot,
Caspian House,
2 Mariner Court,
Clydebank Business Park,
Clydebank
G81 2NR

██████████
24 September 2020
CONFIDENTIAL

Dear ██████████

Carrick Windfarm: Follow Up to Letter Regarding Reduced Great Crested Newt (GCN) Survey Area

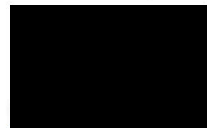
I am writing in follow up to my letter of 17 August 2020 in which I set out WSPs rationale for applying a reduced 250m buffer for GCN surveys, to inform you that we have revised our approach and extended the survey area out to 500m in line with English Nature's (now Natural England) GCN survey guidance¹. I am also able to confirm that there are no additional ponds between 250m and 500m of the development footprint.

In my earlier letter I referred to a cluster of three ponds which were shown on OS mapping to be located to the south of the proposed development (~NX382970). Forestry and Land Scotland (FLS) also advised of a fourth pond within 500m to the south east. However, upon further investigation the three ponds to the south of the proposed development, which were located immediately adjacent to the River Stincher (NX 38281 97081, NX 38202 96972 and NX 38162 96936) were not found to exist but were instead represented by several ephemeral, wet marshy areas (unsuitable as breeding ponds for great crested newts) as a result of apparently regular inundation by the river. No evidence of the pond advised on by FLS was found (NX 39492 97103) and it was assumed to no longer exist. These locations were inspected in July and August 2020 following successive periods of rainfall over the preceding weeks and so the absence of ponds is considered to be representative of normal habitat conditions during the GCN breeding season.

Consequently, we are able to confirm that we have undertaken a full suite of Habitat Suitability Index Assessment, eDNA and presence/absence surveys on all ponds within 500m of the footprint of the proposed development.

I trust that this meets with your expectations as set out in your Scoping Opinion but if you have any further comments or queries at all please do not hesitate to get in touch.

Yours sincerely



Associate Ecologist
██████████

¹ English Nature (2001). Great Crested Newt Mitigation Guidelines. August 2001.

From: ██████████
Sent: 09 October 2020 13:39
To: ██████████
Subject: Carrick Windfarm Reduced GCN Survey Buffer Rationale

Hi ██████████

Thanks for your e-mail and follow up letter dated 24 September 2020. We note that in line with recommendations in our 18 June 2020 Scoping Response that HSI assessment, eDNA and presence/absence GCN surveys have now been undertaken on all ponds within 500m of the proposed development.

Many thanks

██████████ **Area Officer**

NatureScot | Caspian House, Clydebank Business Park, G81 2NR | 0131 314 6778

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

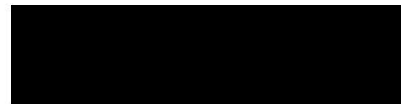
Various EIAR Chapters – NatureScot Gatecheck Report Response

2



Energy Consents Unit
The Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

12 November 2020



FAO

**THE ELECTRICITY ACT 1989 – SECTION 36
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS
2017
CARRICK WIND FARM – GATECHECK**

Many thanks for your consultation to NatureScot dated 27 October 2020 requesting comments on the Gatecheck report for the proposed Carrick Wind Farm.

Description of Proposal

We understand from the Gatecheck Report that the development being considered would comprise thirteen turbines with associated infrastructure, our understanding is that the turbine height proposed remains 200m. The development site is located within Carrick Forest, a commercial forest owned and managed by Forestry and Land Scotland (FLS), within the administrative boundary of South Ayrshire Council (SAC).

Background

We provided pre-application advice to Arcus Consultancy Services in relation to ornithology baseline surveys for this proposal in a letter dated 22 February 2019 and an e-mail dated 23 July 2019. In an e-mail dated 6 February 2020 we provided further advice with regards to the ornithology survey work undertaken and provided landscape and visual impact assessment advice, highlighting the proximity of the Merrick Wild Land Area and the requirement for night time lighting.

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We received the scoping opinion consultation on the 13 May 2020 and issued our scoping response on the 18 June 2020, at this time the proposal was for up to seventeen wind turbines with a maximum blade tip height of 200m.

We provided further ornithology advice to Arcus Consulting with regards to proposed osprey mitigation in e-mails dated 22 July 2020 and 21 September 2020.

We attended a virtual Statutory Consultees Meeting in relation to Carrick Wind Farm on 29 September 2020. Then on the 9 October 2020 we confirmed in an e-mail to WSP that we are content with the survey work methodology used for great crested newts. On the 13 October WSP provided us with an updated ZTV and cumulative wirelines.

We are now being consulted on the Gatecheck Report, which provides an update on the development including the design iteration process and consultation undertaken by SPR. WSP also sent us some landscape queries in an e-mail dated 23 October 2020, our response is in Annex 1.

Having reviewed the Gatecheck report we are content that the Applicant appears to have taken on board the advice we have given. However, at this stage there is no opportunity to comment on the quality of the work or the findings of studies undertaken. Therefore, please note that our advice is given without prejudice to a full and detailed consideration of the impacts of the proposal if submitted for formal consultation as part of the EIA or planning process.

We provide comments on the Gatecheck report in Annex 1. As advised in our 18 June 2020 scoping response we refer the applicant to our "*general pre-application/scoping advice to developers of onshore wind farms*" which can be found via <https://www.nature.scot/professional-advice/planning-and-development/renewable-energy-development/types-renewable-technologies/onshore-wind-energy/general-advice-wind-farm>

This provides guidance on the issues that developers and their consultants should consider for wind developments and includes information on recommended survey methods, sources of further information and guidance and data presentation. Attention should be given to the full range of advice included in the guidance. The checklist in Annex 1 of our guidance sets out our expectations of what should be included in the Environmental Statement (ES).

The guidance document will be updated over time to reflect any changes to available information and our guidance, so users should ensure they download the most up to date version before use.

This advice is given by NatureScot, the operating name of Scottish Natural Heritage.

I hope these comments are useful to you at this stage. If you require any further information please don't hesitate to contact me at

Yours sincerely,



Operations Officer / Strathclyde & Ayrshire

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Annex 1

SNH's comments on the Gatecheck Report and issues to include in Environmental Impact Assessment

Landscape and Visual Impact Assessment

For turbines of 200m height we usually advise a study area of at least 45km. However, having reviewed the Gatecheck Report and considered the A1 ZTV provided by WSP on the 13 October 2020 we agree that 30 km is acceptable for the LVIA and cumulative assessment in this case.

Table 6.1 of the Gatecheck Report states that a viewpoint on Arran has been scoped out of the LVIA (at c45km). We agree that a full assessment can be omitted but would welcome at least a wireline from Arran to clarify the context of the view.

We welcome the A1 ZTV and wirelines from Benyellary and Shalloch on Minnoch and for clarification of cumulative viewpoints provided by WSP in their e-mail of 13 October 2020. We agree that Shalloch on Minnoch should be used as a representative night time and cumulative viewpoint for the Carrick wind farm, with full photography and photomontages, and that wirelines for Benyellary would be adequate. However assuming that SPR has access to the day and night time baseline visuals for Benyellary we would recommend these should be included in addition to the proposed wirelines with relevant explanation.

With regards to the night time visualisations, we note that WSP currently propose to use 200cd lighting as a worst case scenario, however we advise that separate visuals are produced to show both 200cd and 2000cd lighting. This is because we have limited confidence that the brightness of the lights is correctly or consistently represented with photomontages of 200cd lighting. Our experience shows that the visibility of aviation lights and their perceived strength depends on the night time lighting context. There is also some doubt as to how well the dimming of the lights works in the real world where conditions cover a huge range of variability. Production of visuals at 200cd and 2000cd will help to clarify the lighting scenarios and ensure that aviation lighting effects are not underplayed.

Statutory designated sites

Merrick Kells Special Area of Conservation (SAC)

The proposed application area of the wind farm site lies, at its closest point, approximately 7km north west of Merrick Kells SAC - which is classified for a variety of upland and freshwater habitats, as well as otter. Information on the SAC (including the site conservation objectives) can be found on the SiteLink pages of our website: <https://sitelink.nature.scot/site/8313>

The SAC's status means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the "Habitats Regulations") or, for reserved matters the Conservation of Habitats and Species Regulations 2010 as amended again apply. Consequently, Scottish Ministers will be required to consider the effect of the proposal on the SAC before it can be consented (commonly known as Habitats Regulations Appraisal). The SNH website has a summary of the legislative requirements - <https://www.nature.scot/professional-advice/planning->

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and-development/environmental-assessment/habitats-regulations-appraisal/habitats-regulations-appraisal-hra-appropriate

In our 18 June 2020 scoping response we advised that *"Given the separation distance between the proposed development site and the SAC we agree with the conclusions in the scoping report that the upland and freshwater habitat features of the SAC are not hydrologically linked to the proposed development and can be scoped out of the EIA."*

Table 6.1 of the Gatecheck Report confirms this advice has been noted, we advise that a brief explanation of why these SAC features have been scoped out should be included within the EIA report.

With regards to the otter feature of the SAC in our 18 June 2020 scoping response we advised that *"In our view, at present there is insufficient information to determine whether the proposal is likely to have a significant effect on the otter qualifying interest of Merrick Kells SAC. Therefore we reserve full judgement on any impacts on otter until we have considered the full otter survey findings. Following the survey the applicant should consider whether the proposal is likely to have a significant effect on the otter qualifying interest and, if there is, provide sufficient information to inform an appropriate assessment in view of the site's conservation objectives for its otter qualifying interest."*

Table 6.1 of the Gatecheck Report states that the otter qualifying feature of Merrick Kells SAC has been scoped out of the assessment due to a lack of habitat connectivity. Full justification should be provided in the EIA report as to why the applicant considers the proposal will not have a likely significant effect on the otter qualifying interest of the SAC. We reserve judgement on the impacts on otter until the full otter survey findings are available to us.

Merrick Kells Site of Special Scientific Interest (SSSI)

Merrick Kells SSSI is of national importance, shares a similar boundary to the SAC and its designated features include blanket bog habitat, the blue aeshna dragonfly (*Aeshna caerulea*), an assemblage of beetles, a breeding bird assemblage, upland habitats and geological interests. Information on the SSSI can be found on the SiteLink pages of our website: <https://sitelink.nature.scot/site/1148>

In our 18 June 2020 scoping report we advised that *"We agree with the conclusions in the scoping report that there is no connectivity between this SSSI and the proposed development site and that Merrick Kells SSSI can be scoped out of the EIA."*

There is no reference in Table 6.1 of the Gatecheck Report to Merrick Kells SSSI, we advise that a brief explanation of why this designated site has been scoped out should be included within the EIA report.

Auchalton SSSI

The proposed wind farm site lies, at the closest point, approximately 1.5km from Auchalton SSSI, which is of national importance and is designated for lowland neutral grassland. Information on the SSSI can be found on the SiteLink pages of our website: <https://sitelink.nature.scot/site/96>

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In our 18 June 2020 scoping report we advised that *“We agree with the conclusions in the scoping report that there is no connectivity between this SSSI and the proposed development site and that Auchalton SSSI can be scoped out of the EIA.”*

There is no reference in Table 6.1 of the Gatecheck Report to Auchalton SSSI, we advise that a brief explanation of why this designated site has been scoped out should be included within the EIA report.

Bogton Loch SSSI

The proposed wind farm site lies, at the closest point, approximately 10km from Bogton Loch SSSI, which is of national importance and its designated features include open water transition fen and an assemblage of breeding birds. Information on the SSSI can be found on the SiteLink pages of our website: <https://sitelink.nature.scot/site/240>

In our 18 June 2020 scoping response we advised that *“We agree with the conclusions in the scoping report that there is no connectivity between this SSSI and the proposed development site and that Bogton Loch SSSI can be scoped out of the EIA.”*

There is no reference in Table 6.1 of the Gatecheck Report to Bogton Loch SSSI, we advise that a brief explanation of why this designated site has been scoped out should be included within the EIA report.

Further designated sites

In our 18 June 2020 scoping report we advised that *“Section 2.2 “Site Description” of the Scoping report highlights other (geological) statutory designated sites within 5km of the proposed development, such as Knockgardner SSSI and Blair Farm SSSI. We do not consider that either of these sites are connected to the development site. Therefore we are satisfied that they do not require further consideration and can be scoped out of the EIA.”*

There is no reference in Table 6.1 of the Gatecheck Report to these further designated sites. We advise that a brief explanation of why these designated sites have been scoped out should be included within the EIA report.

Protected Species

In our 18 June 2020 scoping response we provided advice with regards to otter, bats, great crested newt, water vole, badger, red squirrel, pine marten, deer, fish and freshwater pearl mussel.

Table 6.1 of the Gatecheck Report confirms that surveys in line with relevant good practice guidelines have been undertaken for the above species, that species specific protection plans will be included within the CEMP and where necessary licences will be obtained from NatureScot.

As advised in our 18 June 2020 scoping response survey work is therefore likely to be sufficient to inform the EIA, however we reserve judgement until we have considered the full survey findings.

Ornithology

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We provided pre-application advice to Arcus Consultancy Services in relation to ornithology baseline surveys for this proposal in a letter dated 22 February 2019 and e-mails dated 23 July 2019 and 6 February 2020. We provided further ornithology advice in our 18 June 2020 scoping response and advice regarding proposed osprey mitigation e-mails dated 22 July 2020 and 21 September 2020.

We are aware that Covid-19 restrictions have affected Year 2 ornithology surveys, therefore as advised in our 18 June 2020 scoping response the range of ornithology surveys undertaken is likely to be sufficient to inform the EIA. However, we reserve judgement until we have considered the full ornithology survey findings. Similarly we are aware of the mitigation proposed for osprey and will advise further once the full ornithology survey results and collision risk modelling data are available to us.

Habitats

The Gatecheck report confirms that the EIA report will include information on NVC and any notable plant species. We continue to recommend that for ease of reference the EIA report should include a map of the NVC survey results with the wind farm boundary, proposed turbines, tracks and infrastructure layout overlapping.

We are pleased to note that the applicant has consulted with Forestry and Land Scotland (FLS) and that discussions are ongoing with FLS regarding the felling and restocking plan for this site.

Peat

Table 6.1 of the Gatecheck Report confirms that peat surveys have now been undertaken in line with Scottish Government Guidance. Therefore we consider that peat survey work is likely to be sufficient to inform the EIA, however as advised previously we reserve full judgement until we have considered the full survey findings.

The Gatecheck Report states that that peat survey results have been used to inform the design process, however a small area of proposed track will be sited on Class 1 peatland. We continue to recommend that where priority habitats such as blanket bog and peat cannot be avoided suitable restoration and/or compensation measures should be presented in the EIA report in the form of a draft Habitat Management Plan (HMP). HMPs should follow our guidance on *“What to consider and include in Habitat Management Plans”* available via <https://www.nature.scot/guidance-planning-development-what-consider-and-include-habitat-management-plans>

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Chapter 8: Ornithology – Collision Risk Modelling

From: [REDACTED]

Sent: 23 November 2020 12:57

To: [REDACTED]

Cc: [REDACTED]

Subject: Collision Risk Modelling Summary - Carrick Windfarm.

Good afternoon [REDACTED]

For your reference, please find below a summary of the Collision Risk Modelling (CRM) Results for Carrick Windfarm. Full details of the CRM methodologies, parameters and outputs are presented in Technical Appendix 8.5, which will be submitted in support of the upcoming application.

Summary of Methods

Height bands 2 and 3 (30-175 m and >175 m) fell within the Rotor Swept Height (RSH) of the candidate turbine model (50-200 m), and therefore a 'worst-case scenario' approach was adopted and all target species flights within these height bands were considered to be at Potential Collision Height (PCH). This is a precautionary measure and may overestimate collisions by including flights which may have been above PCH. Flights that passed within the Collision Risk Zone (CRZ) at potential collision height (PCH) were included in the CRM where sufficient flight activity was recorded by a target species. These species were;

- osprey,
- goshawk and
- peregrine.

For each species, the risk of collision for an individual was calculated by estimating the likelihood of collision based on the characteristics of the birds and of the turbines, using the Band et al. (2007) model. For random flights, the CRZ was defined as the visible area within the Vantage Point (VP) Viewsheds. A random model was used for peregrine and goshawk, as this was considered to be most applicable for these species. However, peregrine flights associated with the breeding territory were not considered to be random, therefore flights were only included in CRM when they entered the CRZ. For osprey flights the CRZ was adapted, with two CRZs defined due to two distinct, direct (regular) flight patterns. For directional (non-random) flights, the CRZ was defined as a 500 m buffer of turbines.

Summary of CRM Outputs

Collision risk for birds passing through the rotors was calculated using the NatureScot example spreadsheet for calculating the probability of collision. The results are presented in **Table 1** below.

Table 1: Probability of Collision for Birds Passing Through Rotors

Species	p(collision)* Upwind	p(collision)* Downwind	Mean
Osprey (flapping)	5.8%	4.4%	5.1%
Goshawk (flapping)	6.2%	4.5%	5.3%
Peregrine (flapping)	5.3%	3.9%	4.6%
*Where p = probability; the probability is calculated for both upwind and downwind flights, with a higher collision risk in upwind conditions; the mean was then used to estimate collision risk			

The final mean collision rates calculated for each species are listed in **Table 2** below.

Table 2: Mean Collision Risk and Number of Years Per Collision

Species	Annual collision risk (no. of birds killed)		No. of years per collision	
	Assuming no avoidance	Using species- specific avoidance rates	Assuming no avoidance	Using species- specific avoidance rates
Osprey	4.450	0.089	0.225	1 collision every 11.3 years
Goshawk	0.134	0.003	8.175	1 collision every 408.7 years
Peregrine	0.222	0.005	4.622	1 collision every 231.1 years

For goshawk and peregrine the risk of collision is negligible. For osprey the risk is comparatively higher, however this level of predicted mortality represents 0.89% and 0.74% of the NHZ 17 and NHZ 19 breeding osprey populations respectively (Wilson *et al.*, 2015). The effects of collision risk on osprey is investigated further in detail in the EIA Report (Chapter 8: Ornithology).

Please note as this information has been provided for your reference ahead on the application submission next month, we do not require a response from NatureScot at this stage.

Kind regards,

[REDACTED]

[REDACTED]

Principal Ecologist



Royal Society for the Protection of Birds Scotland

Chapter 8: Ornithology – Nesting Osprey



RSPB Scotland

Arcus Consultancy Services
7th Floor
144 West George Street
Glasgow
G2 2HG

17/08/2020

Dear [REDACTED]

Thank you for consulting RSPB Scotland regarding the nesting osprey within the proposed Carrick wind farm, in South Ayrshire. We summarise our understanding of current research in relation to the proposal in the attached Annex 1, without prejudice to any subsequent responses we may provide.

We hope the information provided is useful. Should you wish to discuss our comments further, please don't hesitate to get in touch.

Yours sincerely,



Conservation Officer – Scottish Lowlands and Southern Uplands

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Chairman, Committee for Scotland: Professor Colin Galbraith Director, RSPB Scotland: Anne McCall Regional Director: Dr Dave Beaumont
The Royal Society for the Protection of Birds (RSPB) is a registered Charity: England & Wales no 207076, Scotland no SC037654

Annex 1

Migration

We note the use of satellite tracking studies from the UK to justify a likely approach to the nest from the south. However, the websites cited do not appear to show high temporal-spatial resolution from the tracking data. Either this is not available, or a more detailed examination of this data is needed. Until we see more detailed satellite tracking data, we cannot advise on the likely approach from the south and the subsequent mitigation measures. It has been demonstrated from other studies that although there is some convergence on flight paths, flight path fidelity is low (Alerstam et al 2006).

We also consider it possible that migrating osprey will use the loch to forage during migration, however this could be mitigated by careful design necessary to protect the resident breeding pair. However, as evidence suggest osprey imply a 'fly and forage' migration strategy (Strandberg & Alerstam, 2007), assessing potential effects on migrating osprey would require intensive survey effort.

Fledging and young birds

Collision risk might be particularly important to younger birds, who are less capable of flight. Fledging osprey exploratory flights have been shown to range from 0.3-5.6km in distance and they can remain the area for up to a month (Østnes et al 2019). Therefore, turbines surrounding the nest within these distances could pose a serious threat to fledging osprey. This is perhaps the greatest concern as it could result in a resident pair nesting successfully only for the chicks to collide with wind turbines during fledging flights.

As osprey are gregarious, younger non-breeding birds will often visit established breeding pairs either looking to oust one member of the existing pair or establish a nest nearby (Lohmus, 2001), as males rarely move far from their natal nest (Bierregaard et al 2014). This could be significant, as successful nesting was only recorded last year and therefore recruitment into the area from this nest may not become apparent for some time, as young ospreys will spend up until their third calendar year in sub-Saharan Africa before returning to breed. Predicting the flight behaviour and interactions between intruding individuals and adults would appear to be complex, as would predicting future nest sites of birds fledged from this nest

Disturbance distances

We note the 750m buffer left around the osprey nest as the upper limit described Ruddock and Whitfield (2007). However, this is based on the expert survey which involves the disturbance distance for a single approaching pedestrian, and not the activity associated with the construction of a wind farm. They describe ospreys as showing a "wide range of tolerance" but that "predictable" disturbance is better tolerated than "sporadic or new sources of disturbance initiated during incubation and young chick stage." Therefore, as this pair is new to the site that would seem to be relatively undisturbed, a buffer distance greater than 750m may be required.

Foraging

It would also appear that occasional foraging trips are made to the nearby Loch Braden to the west of the nest, in addition to the majority of trips made to the nearby Linfern Loch. This link between Loch Braden and the nest should be explored further; data requests from the local raptor study group and county bird recorder may give indications of the use of the loch by osprey. However, as the pair only nested for the first-time last year, an absence of records would not prove that the loch is not used by the nesting pair. The fluctuation of fish stocks could also play a role in which of the lochs is used by the osprey, and this variation should be explored further.

References

Alerstam, Thomas & Hake, Mikael & Kjellén, Nils. (2006). Temporal and spatial patterns of repeated migratory journeys by Ospreys. Animal Behaviour. 71. 555-566. 10.1016/j.anbehav.2005.05.016.

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Ruddock. M & Whitfield D.P (2007) A Review of Disturbance Distances in Selected Bird Species. Scottish Natural Heritage. 2007

Strandberg, R., Alerstam, T. The strategy of fly-and-forage migration, illustrated for the osprey (Pandion haliaetus). Behav Ecol Sociobiol 61, 1865–1875 (2007).

Scottish Water

Chapter 6: Hydrology, Hydrogeology, Geology and Soils – Consultation Response

Friday, 13 November 2020



Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number: [REDACTED]
E-Mail: [REDACTED]
www.scottishwater.co.uk

Dear Sir/Madam

SITE: Wind Farm, Carrick Forest
PLANNING REF: Carrick Forest
OUR REF: [REDACTED]
PROPOSAL: Wind Farm 13 Turbines

Please quote our reference in all future correspondence

Audit of Proposal

Scottish Water has no objection to this planning application; however, the applicant should be aware that this does not confirm that the proposed development can currently be serviced and would advise the following:

Asset Impact Assessment


According to our records, the development proposals impact on existing Scottish Water assets.

The applicant must identify any potential conflicts with Scottish Water assets and contact our Asset Impact Team via [our Customer Portal](#) to apply for a diversion.

The applicant should be aware that any conflict with assets identified may be subject to restrictions on proximity of construction. Please note the disclaimer at the end of this response.

Drinking Water Protected Areas

A review of our records indicates that the proposed activity falls within a drinking water catchment where a Scottish Water abstraction is located. Scottish Water abstractions are designated as Drinking Water Protected Areas (DWPA) under Article 7 of the Water Framework Directive. Stinchar Aqueduct supplies Afton, Bradan, Penwhapple and Camphill


Find out more about connecting your
property to the water and waste water supply visit:


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We'd love to know what we're
doing well or could do better.
We promise we're listening.
[click here](#) to tell us... 

Water Treatment Works (WTW) and it is essential that water quality and water quantity in the area are protected. In the event of an incident occurring that could affect Scottish Water we should be notified without delay using the Customer Helpline number **0800 0778 778**.

It is a relatively small catchment therefore there may be less opportunity for dilution and a potential higher risk of activities affecting water quality and given the limited information supplied in order to fully assess the risk we need much more detail about the development.

Scottish Water have produced a list of precautions for a range of activities. This details protection measures to be taken within a DWPA, the wider drinking water catchment and if there are assets in the area. Please note that site specific risks and mitigation measures will require to be assessed and implemented. These documents and other supporting information can be found on the activities within our catchments page of our website at www.scottishwater.co.uk/slm.

We welcome early engagement with Scottish Water.

The fact that this area is located within a drinking water catchment should be noted in future documentation. Also anyone working on site should be made aware of this during site inductions.

We would request further involvement at the more detailed design stages, to determine the most appropriate proposals and mitigation within the catchment to protect water quality and quantity.

We would also like to take the opportunity, to request that 3 months in advance of any works commencing on site, Scottish Water is notified at protectdwsources@scottishwater.co.uk. This will enable us to be aware of activities in the catchment and to determine if a site meeting would be appropriate and beneficial.

Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not accept any surface water connections into our combined sewer system.

There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.

In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should contact Scottish Water at the earliest opportunity with strong evidence to support the intended drainage plan prior to making a connection request. We will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.

General notes:

- ▶ Scottish Water asset plans can be obtained from our appointed asset plan providers:



- ▶ Site Investigation Services (UK) Ltd
- ▶ Tel: 0333 123 1223
- ▶ Email: sw@sisplan.co.uk
- ▶ www.sisplan.co.uk

I trust the above is acceptable however if you require any further information regarding this matter please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,


Development Operations Analyst
developmentoperations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

Scottish Environment Protection Agency

Chapter 6: Hydrology, Hydrogeology, Geology and Soils – Surface Water Drainage / Groundwater Dependent Terrestrial Ecosystems

From: [REDACTED]
Sent: 20 October 2020 14:44
To: [REDACTED]
Cc: [REDACTED]
Subject: Carrick Windfarm - SEPA & WSP Call Minutes

Hello everyone,

Thanks again for taking the time to discuss our approach for Carrick Windfarm.

As promised, these are the items discussed:

- **Surface Water Drainage**
 - ✓ SEPA would like to see a High-level strategy in regards to surface water drainage laid out within the relevant documents. They understand WSP do not have enough information to undertake a detailed surface water drainage management plan at this stage.
 - ✓ WSP would appreciate, if possible, an updated Scoping Response from SEPA to reflect the level of detail agreed. This was the approach taken for Harestanes Windfarm.
 - **Peat**
 - ✓ WSP explained the peat probing methodology and how the peat depths have informed the design. When possible, the infrastructure has been moved to known shallower peat depths, for example Turbine 10. This process was a continuous iteration between the Design Team, the Hydrology Team and all the other disciplines. SEPA were content with the approach.

SEPA queried the microsites potential at turbines, such as at Turbine 10, given the density of probing points on the figure that was circulated. WSP provided further explanation and presented GIS data via a screen share to provide a clearer view of the turbine/infrastructure position refinement, based on peat depth and hydrological constraints, and scope for microsites, if required.

 - ✓ WSP described the Peat Stability methodology at a high level, based on a 50x50m grid and the maximum peat recorded within each grid cell. SEPA were content with the approach.
- **GWDTE**
 - ✓ WSP explained their usual methodology to GWDTE Assessment. The NVC results from the Ecology Team are filtered based on SEPA's Guidance LUPS-31 and then clustered based on their hydrogeological setting. The Groundwater dependency is then revised for each cluster based on site visit notes, topography, hydrology and geology. SEPA were content with the approach.

Please let me know if I missed any important points.

Thanks again for taking the time,

[REDACTED]
Environmental Consultant, Hydrology and Water Environment

From: [REDACTED]
Sent: 19 November 2020 16:33
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Windfarm - SEPA & WSP Call Minutes

Dear [REDACTED]

Apologies for the delay in responding to you.

As an action following the meeting I was to send you what we require in regard to the surface water management on site in relation to pollution prevention.

We would need to see a general site layout/map showing the proposed development infrastructure in context with the water environment (watercourses, tributaries, lochs, drains) which demonstrates relevant buffers and pollution pathways have been appropriately considered. Justification would be required for any instances where standard buffer distances would not be met, including details of mitigation. We would expect details on the range of mitigation that would be utilised for construction of the various aspects of the development to be provided.

The day-by-day management of surface water run-off and the highest level of detail regarding the exact sizing and location of mitigation features would form part of the Pollution Prevention Plan (PPP), required as part of the Construction Site Licence.

I trust this information is useful. If you require further information please contact us.

Many thanks

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: 19 November 2020 16:33
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Wind Farm Gatecheck Consultation

Carrick Wind Farm proposal
Gatecheck Report
Your reference: [REDACTED]
SEPA reference: [REDACTED]

Dear [REDACTED]

Thank you for your email below.

The content of the EIA Gate-check report is noted and the responses the developer provides generally seem reasonable.

We always encourage developers to fully engage with us at the pre-application stage to try and ensure that our issues are taken on board early on in the process when they are easiest to address and to try, where possible, to avoid formal objections from us at a later stage.

The WSP therefore contacted SEPA for a meeting which was held on 20 October to discuss surface water in relation to SEPA's pollution prevention requirements. SEPA agreed that we would need to see a general site layout/map showing the proposed development infrastructure in context with the water environment (watercourses, tributaries, lochs, drains) which demonstrates relevant buffers and pollution pathways have been appropriately considered. Justification would be required for any instances where standard buffer distances would not be met, including details of mitigation. We would expect details on the range of mitigation that would be utilised for construction of the various aspects of the development to be provided.

The day-by-day management of surface water run-off and the highest level of detail regarding the exact sizing and location of mitigation features would form part of the Pollution Prevention Plan (PPP), required as part of the Construction Site Licence. These comments will be sent to WSP as well.
As stated in the gate check report, the applicant should engage in pre-CAR application discussions with a member of the local SEPA Compliance team on [REDACTED]

At the meeting, WSP also discussed the GWDTE assessments being taken and approaches to peat avoidance and management on site and we considered these to be satisfactory.

Prior to the formal submission of the application we will be happy to review and provide advice on any updated GWDTE assessment or other work on peat such as the Peat Management Plan if this would be helpful.

Yours sincerely
[REDACTED]

South Ayrshire Council

Chapter 5: Landscape and Visual – 2021 Consultation

From: [REDACTED]
Sent: 11 November 2021 16:29
To: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA Matters

Dear [REDACTED]

Thank you for your email. I confirm that our landscape adviser did not have any further comments.

I trust the foregoing will be of assistance.

Yours sincerely,

[REDACTED]

From: [REDACTED]
Sent: 28 October 2021 13:20
To: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA Matters

Dear [REDACTED]

Thank you for confirming agreement to our 125m hub height/150m rotor diameter turbines as worst case. I just wanted to clarify a few points in relation to the cumulative assessment.

We understand the application Craiginmoddie Windfarm and scoping Knockcronal Windfarm which would lie beside Carrick Windfarm may consider similar turbine options, with similar hub and rotor diameter parameters being proposed. As you note, the difference in proportions between the turbine options are not easily perceptible, and with the undulating landform over these sites, a potential maximum of 10m difference in hub height and 5m blade length with the neighbouring cumulative applications would be likely imperceptible. For our cumulative assessment, we consider it would be too onerous and unnecessary to assess both turbine options against application and scoping proposals – the potential different turbine options between the three sites within the hub height and rotor diameter parameters ($\leq 10\text{m}$) is very unlikely to create any significant visual confusion or have a bearing on the assessment's findings. We will include discussion on this within our cumulative assessment accordingly. We would be happy to discuss further if required.

Kind regards,

[REDACTED]

wsp

[REDACTED]

Associate Director (Landscape and Urban Design)

MA(Hons), CMLI

Pronouns: she/her

[REDACTED]

From: [REDACTED]
Sent: 26 October 2021 16:56
To: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA Matters

Dear [REDACTED]

Our landscape consultant has advised as follows:

I think the worst case scenario set at 150m hub height for the proposed turbines would be appropriate for the LVIA given the potential for increases in the number of hubs and aviation lights visible. While the visualisations provided by the applicant from VP 1 do appear to indicate that there would be little perceptible difference between the increases in rotor diameter/tower height between potential turbine models, I am concerned about the variations in proportions of blade/towers in relation to other nearby proposed turbines and any perceptible contrasts which may increase visual confusion in key views. I presume that the applicant may select either turbine model if consent is received and I would therefore expect both models to be considered within the cumulative landscape and visual impact assessment.

I trust the foregoing will be of assistance.

Yours sincerely,

[REDACTED]

Chapter 5: Landscape and Visual – Landscape and Visual Impact Assessment

From: [REDACTED]
Sent: 27 October 2020 16:18
To: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA Consultation

Hello [REDACTED]

It is usual to select only 3-5 key viewpoints to illustrate night-time effects and I think what they're proposing sounds fine.

The Clauchrie wind farm EIA assessed effects on 10 promoted viewing points within the Dark Sky Park and it would be useful if this could also be done for Carrick. This doesn't mean that a night time visualisation is needed from each of these points (some may not have any visibility of lighting) but just that some assessment is needed of likely visibility and potential effects.

We requested in our scoping opinion (and reiterated at the virtual meeting) that lighting effects are considered at all the LVIA viewpoints, whether located in the Dark Sky Park or not, in addition to the 3 viewpoints selected for representative night time visualisations. It will also be important for the cumulative effects of illuminated turbines within other proposals (Carrick, Howmoor, Arecleoch II etc) to be considered in the LVIA in terms of effects on character, views and the wildness qualities of the Merrick WLA.

Best wishes

[REDACTED]
Carol Anderson Landscape Associates
12b Boswall Road
Edinburgh
EH5 3RH

0131 552 8018

Chapter 5: Landscape and Visual: Proposed changes to wind turbine options and potential realistic worst case scenario

From: [REDACTED]
Sent: 26 October 2021 16:56
To: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA Matters

Dear [REDACTED]

Our landscape consultant has advised as follows:

I think the worst case scenario set at 150m hub height for the proposed turbines would be appropriate for the LVIA given the potential for increases in the number of hubs and aviation lights visible. While the visualisations provided by the applicant from VP 1 do appear to indicate that there would be little perceptible difference between the increases in rotor diameter/tower height between potential turbine models, I am concerned about the variations in proportions of blade/towers in relation to other nearby proposed turbines and any perceptible contrasts which may increase visual confusion in key views. I presume that the applicant may select either turbine model if consent is received and I would therefore expect both models to be considered within the cumulative landscape and visual impact assessment.

I trust the foregoing will be of assistance.

Yours sincerely,

[REDACTED]

From: [REDACTED]
Sent: 26 October 2021 11:51
To: [REDACTED]
Subject: RE: Carrick Windfarm - LVIA Matters

Hi [REDACTED]

I was just wondering if you are able to provide a response on the below matters with regard to the Carrick Windfarm proposals. If it helps to know, NatureScot have recently responded with agreement to our proposed worst case scenario primarily based on their concerns over the turbine aviation lighting visibility.

Kind regards,

[REDACTED]

wsp

[REDACTED]
Associate Director (Landscape and Urban Design)
MA(Hons), CMLI
Pronouns: she/her

[REDACTED]

Chapter 9: Noise – Operational Wind Turbine Noise

From: [REDACTED]
Sent: 28 November 2020 20:13
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Windfarm Noise Assessment

Hi [REDACTED]

I hope that you are well. Further to the email below, we are still outstanding a response from ACCON UK on Item 2. Is there an update on this please?

Also, during previous correspondence, the complex nature of cumulative noise assessment methods was acknowledged and we confirmed that we would provide further detail for ACCON UK as the work progressed. I am pleased to present this below for forwarding to ACCON UK for their agreement. To assist I also attach a draft figure showing the development layout and receptor locations etc.

Cumulative Noise Assessment Methodology

Cumulative Developments

It had previously been agreed that the following windfarm developments would be accounted for in the cumulative noise assessment for the Proposed Development:

- Dersalloch Windfarm (4.5km* to the north east) – operational; and
- Hadyard Hill Windfarm (4.2km* to the west) – operational.

*The stated distances are the shortest distance between wind turbine Developable Area for the Proposed Development and the installed cumulative development wind turbines.

In addition to the above, and following submission of the Scoping Report for the Proposed Development, a Scoping Report was submitted for the Craiginmoddie Windfarm which is proposed to the immediate west of the Proposed Development. The Craiginmoddie Windfarm is only at Scoping Stage, and it is therefore not known whether this will ultimately benefit from a consent, or indeed what the final detail of any such consented development would be (turbine number, locations and size etc.). N.B. the Craiginmoddie layout presented on the attached plan is indicative only. However, given that a Scoping Report has been submitted for that development, it has also been addressed within the cumulative noise assessment.

Methodology

The adopted cumulative assessment methodology is in accordance with ETSU-R-97 and the IoA GPG. It is also cognisant of:

1. ACCON UK's previous comments regarding a -10dB test (to check for potential cumulative influence);
2. the details of the planning consents under which the Dersalloch Windfarm and the Hadyard Hill Windfarm must operate, including the noise limits applicable to these developments;
3. Consideration to the presence of 'controlling properties' as defined in the IoA GPG; and
4. How a limit apportionment scheme may be necessary between the Proposed Development and the Craiginmoddie Windfarm (should both of these developments be subject to a consent).

Cumulative Limit Determination

The total (cumulative) noise level limits that apply have been determined in compliance with ETSU-R-97 and the IoA GPG, and with consideration to the noise limits applicable to the operational cumulative developments and previous associated commentary from ACCON UK / SAC on those limits.

In brief, the noise limits to which the consented Dersalloch Windfarm must comply (at properties without financial involvement) are:

- Night-time – 43dB(A) or the background (L_{A90}) noise level* +5dB, whichever is the higher.
- Daytime – 37.5dB(A) of the background (L_{A90}) noise level* +5dB whichever is the higher.

*The background levels are those reported within the associated Environmental Statement Addendum

For the consented Hadyard Hill Windfarm, the wording used in the noise limit conditions is not wholly reflective of ETSU-R-97 requirements, but, for properties without a financial involvement, fixed levels of 38dB(A) for the daytime and 43dB(A) for night-time are referenced. It is reasonable to assume that in testing compliance with these limits, or if a complaint investigation was to be undertaken, best practice as defined by ETSU-R-97 and the IoA GPG would be applied adopting these levels as the fixed limit elements.

The IoA GPG recognises that in a complex cumulative scenario (as is the case here) consideration needs to be given to the noise level limits that are imposed on consented developments (as summarised above). Indeed it would be incongruous to set the cumulative noise level limits lower than those already permitted to be generated by the consented developments. This was recognised in South Ayrshire Councils scoping response to the formerly proposed Hadyard Hill Windfarm Extension. That response stated the following:

"ACCON have also advised that the following operational noise limits should be applied. To accord with the current noise conditions for Hadyard Hill their advice is that a daytime limit should be based on 38dB L_{A90} and for the night-time limit of 43dB L_{A90} ."

Accordingly, for properties without a financial involvement, the total (cumulative) noise limits have been determined on the basis of the following:

- Night-time – 43dB(A) or the background (L_{A90}) noise level +5dB, whichever is the higher.
- Daytime – 38dB(A) of the background (L_{A90}) noise level +5dB whichever is the higher.

N.B. no properties have a financial involvement in the Proposed Development.

Cumulative Scoping

Initially a 'cumulative scoping exercise' has been undertaken to identify those receptors that could be scoped-out of the cumulative assessment, and those for which further consideration is required.

Step 1 has been to consider the closest receptors to each of the cumulative developments. These receptors are as follows:

Dersalloch Windfarm:

- Culldoch Cottage
- Baing Farm

Hadyard Hill Windfarm:

- Corphin Cottage
- Delamford Cottage

Craiginmoddie Windfarm:

- Dobbingstone Farm

Detailed noise level predictions have been undertaken for the Proposed Development operating in isolation. It has been identified that at each of the above receptors, noise levels from the Proposed Development would be more than 10dB below either the limits applicable to the consented developments and/or the total (cumulative) noise level limits as derived. Predictions have included for a +3dB valley corrections where applicable and with topographic screening capped at -2dB (and only applied where the turbine is fully screened to tip height). As such, the -10dB test is met, and these receptors are scoped-out of further consideration in the cumulative noise assessment.

Step 2 has been to consider the closest receptors to the Proposed Development that are in the direction of the operational cumulative developments. The following receptors have been considered:

Dersalloch Windfarm:

- Glenalla
- Knockskae
- Linfairn
- Genoch Cottage
- Old Toll House

Hadyard Hill Windfarm:

- Doughty Farm

Detailed noise level predictions have been undertaken for the Dersalloch Windfarm and the Hadyard Hill Windfarm. In undertaking these predictions, due account has been given to the corresponding IoA GPG guidance that whilst a given development may be generating certain noise levels at the present time, it might be possible for higher levels to be generated in the future, but that any existing development will need to operate within the bounds of its consent. It also recognised in the IoA GPG section entitled '*Significant head room present*' that "*where there would be no realistic prospect of the existing wind farm producing noise levels up to the total ETSU-R-97 limits, agreement could be sought with the LPA as to a suitable predicted noise level (including an appropriate margin to cover factors such as potential increases in noise) from the existing wind farm to be used to inform the available headroom for the cumulative assessment without the need for negotiation or cumulative conditioning.*"

In the case of the Dersalloch Windfarm, Condition 15 of its consent required that the sound power levels for the turbine to be installed were submitted and approved and that those details are subsequently complied with. The noise level predictions have therefore been undertaken accounting for these maximum permitted turbine sound power levels. An additional +2dB uncertainty correction has also been applied. These maximum permitted sound power levels have been applied at each of the consented turbines. The resulting Dersalloch Windfarm noise level predictions can therefore be considered worst-case in terms of the levels that could be generated by this development when operating within its consent.

For the receptors of Glenalla and Old Toll House, the worst case noise levels from Dersalloch Windfarm are more than 10dB below the total (cumulative) noise limits. For the receptors of Knockskae, Linfairn and Genoch Cottage, the worst case noise levels are approaching 10dB below the total (cumulative) noise level limits (between 8.2 and 8.7dB below the applicable daytime limits at the worst wind speed). However, these results assume downwind propagation. These receptors are located between the Proposed Development and Dersalloch Windfarm. When these properties are downwind from the Proposed Development, Dersalloch will actually be 'upwind' from these receptors, and the resulting levels from Dersalloch will be reduced to be more than 10dB below the applicable limits. As such the -10dB test is met, and these receptors are scoped-out of further consideration in the cumulative noise assessment.

For Hadyard Hill Windfarm. It has been identified that there is limit headroom at Doughty Farm due to 'Corphin Cottage' being a '*controlling property*' as defined in the IoA GPG. Noise level predictions for Hadyard Hill Windfarm have been undertaken based on the installed turbine type but with an additional +2dB uncertainty correction and assuming all turbines in unconstrained mode. The adopted turbine sound power level data has also been flat-lined from 6m/s downward (i.e. assuming no reduction at lower speeds). The prediction results identify that Hadyard Hill Windfarm exceeds the applicable limits at Corphin Cottage. As such, the predicted noise levels at Doughty Farm can be considered worst-case. In other words, lower levels will actually occur in practice at Doughty Farm, due to the need to operate within the applicable limits at Corphin Cottage. Furthermore, it is understood that Hadyard Hill Windfarm operate a noise management scheme. By comparison, the prediction results are on the basis of all turbines operating in unconstrained mode, further confirming that the results can be considered worst-case for this development.

For the receptor of Doughty Farm, the worst case noise levels from Hadyard Hill have been identified to be 6.4dB below the total (cumulative) daytime noise limits. As such this receptor has been retained within the cumulative assessment.

Cumulative Assessment

Having completed the cumulative scoping exercise, the turbine noise assessment has then been completed including subtraction of the worst-case Hadyard Hill noise levels at Doughty Farm and consideration to an apportionment scheme to address a possible cumulative scenario where the Craiginmoddie Windfarm is the subject of a parallel consent.

I trust that the above is a useful summary of the cumulative assessment approach that we have adopted, and I would be grateful if ACCON UK could confirm general agreement of this approach as outlined.

Please do not hesitate to give me a call if you have any queries at all

Best regards

[Redacted Signature]

[Redacted Name]
Associate Director (Acoustics)



From: [Redacted]
Sent: 22 October 2020 16:31
To: [Redacted]
Cc: [Redacted]
Subject: RE: Carrick Windfarm Noise Assessment

Hi [Redacted]

Item 1

I have attached what I believe to be the original Hadyard Hill permission (Section 36 Consent Notice). The case predates our electronic filing system but I have been able to retrieve this from an internal electronic file. To the best of my knowledge this is the correct decision notice. The operational noise conditions are set out at paragraphs 7.11 and 7.12.

Item 2

I have passed your query on to ACCON

Item 3

I have attached the email correspondence confirming the make and model of turbine

Regards

[Redacted Signature]

From: [REDACTED]
Sent: 22 October 2020 14:06
To: [REDACTED]
Cc: [REDACTED]
Subject: Carrick Windfarm Noise Assessment

Hi [REDACTED]

I hope that you are well.

Following on from our previous correspondence regarding the above, we continue to progress the noise assessment work for this Proposed Development. This has given rise to a few extra points that I would be grateful for your / ACCON UK's input on. These points are all with respect to operational turbine noise and are as follows:

1) Hadyard Hill Windfarm Noise Limits / Conditions

To inform the cumulative noise assessment, we require a copy of the noise related planning conditions to which the Hadyard Hill Windfarm is subject. I have been regularly checking the South Ayrshire On-line Planning Portal, but it has been down now for many weeks. Regardless, the age of that consent is such that it may not be present there in any case. Please can you let me know if you have a copy of this consent that can be forwarded? If not, I think that ACCON UK should have a copy because they made reference to the Hadyard Hill consented noise limits in their consultation response to the formerly proposed Extension to that Windfarm. Those comments were as follows:

ACCON have also advised that the following operational noise limits should be adopted. To accord with the current noise conditions for Hadyard Hill their advice is that a daytime limit should be based on 38db LA90 and for night time limit of 43db LA90. It is their view that these limits represent the best achievable protection to the amenity of residents should the proposed development be granted consent.

Clearly therefore they have some knowledge of Hadyard Hill Windfarm noise limits, and it is that detail which I require to inform our assessment work.

2) Infrasound and Low Frequency Noise and Excess Amplitude Modulation

Please can ACCON UK confirm that, as is standard practice, detailed assessments of these matters can be scoped-out of the assessment work that we are undertaking at this stage.

3) Dersalloch Windfarm Planning Condition 25 Discharge

Planning condition 15 of the Dersalloch Windfarm Planning Consent is as follows:

"15. There shall be no Commencement of Development unless and until the details of the proposed turbines (including size, type, external finish / colour, rated capacity, sound power levels), the wind monitoring masts and all associated apparatus have been submitted to, and approved in writing by the Planning Authority."

Please would it be possible to provide a copy of the detail submitted to allow discharge of this condition? In particular I am looking for the turbine type and sound power level data as submitted for the turbine type that was then subsequently installed.

A response to points 1 and 2 is more urgent than to point 3, so if that information becomes available sooner, then I would be very grateful for it to be sent on first.

Any queries, please do just let me know

Best regards

[REDACTED]

Associate Director (Acoustics)

Chapter 9: Noise – Confirmation of Cumulative Assessment and Methodology

From: [REDACTED]
Sent: 05 January 2021 17:21
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Carrick Windfarm Noise Assessment

Hi [REDACTED]

Further to your email of 4 Jan, I am forwarding the email sent direct to you by ACCON on 1 December.

Can you please confirm that this answered your queries regarding cumulative noise ?

Kind regards

[REDACTED]

From: [REDACTED]
Sent: 01 December 2020 17:42
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Carrick Windfarm Noise Assessment

Hi [REDACTED]

I confirm my general agreement with the approach and methodology for the cumulative assessment set out in your email below.

As this is part of the EIA process, I would like to see the content of this email summarised or reproduced in the EIAR. In other words, the noise chapter should at minimum explain the groups of receptors that were considered as potential 'cumulative' receptors and why they have ultimately been included or excluded from the cumulative assessment.

Regards

[REDACTED]

Associate Director

ACCON UK
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