



Galloway and Southern Ayrshire Biosphere Partnership
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 Newton Stewart, DG8 7BE
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Landscape

We are particularly concerned that the proposal for 200m high turbines goes against the recommendations in the 2018 South Ayrshire Landscape Wind Capacity Study for landscape type;

- 17c Foothills with Forest and Wind farm

which encompasses the majority of the proposed development area, and states “There is no scope for very large turbines (>130m high) to be accommodated in this landscape.” We support this statement and have concerns that the scale of the proposed turbines will dominate both the existing forestry and wider hills.

We would like to see the Biosphere considered as part of the landscape study particularly in relation to “Sense of Place”, the UNESCO requirement that Biospheres “*should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions*” and the South Ayrshire Council Local Development Plan recognition of its significance as a “world class-environment.”

Further we would request that in future the contact details for Energy Consent Unit windfarm proposals are directed to [REDACTED]

Yours sincerely
 REDACTED

[REDACTED]
 Coordinator

Galloway and Southern Ayrshire UNESCO Biosphere



Registered as a Scottish Charitable Incorporated Organisation
 SC044137

Galloway and Southern Ayrshire Biosphere Partnership
“Demonstrating a passion for living in a way that benefits people and nature”



By email to:
econsents_admin@gov.scot

Energy Consents Unit
 4th Floor, 5 Atlantic Quay
 150 Broomielaw
 Glasgow
 G2 8LU

Longmore House
 Salisbury Place
 Edinburgh
 EH9 1SH

Enquiry Line: REDACTED
HMConsultations@hes.scot

Our case ID: 300044790
 Your ref: EC00002063

03 June 2020

Dear Sir/Madam,

[The Electricity Works \(Environmental Impact Assessment\) \(Scotland\) Regulations 2017 Carrick Wind Farm, South Ayrshire EIA Scoping Report \(May 2020\)](#)

Thank you for your consultation which we received on 13 May 2020 about the above scoping report. We have reviewed the details in terms of 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. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings.

Proposed Development

We understand that the proposals comprise the development of up to 17 wind turbines with a maximum blade tip height of 200m and additional infrastructure on a site located in the Carrick Forest, South Ayrshire. We also understand that there is some potential for other technologies, such as energy storage, to be incorporated into the proposals.

Our Views on the Principle of the Development

We consider that it may be possible to accommodate a wind farm at this location but, based on the information provided so far, note that there is the potential for significant adverse impacts on heritage assets and their settings located in the vicinity of the proposals. In order to address these issues mitigation by design, including alterations to the development layout and turbine heights, may be required. We would therefore be

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

keen to engage further as the development progresses, and are happy to offer more detailed comments as further ZTV information and wireframe views become available.

Scope of Assessment

As set out above, we note that there is a potential for impacts on nearby heritage assets in our remit and their settings. We therefore consider that any Environmental Impact Assessment (EIA) undertaken for the proposals should include a detailed assessment of impacts on the Cultural Heritage Topic area. We recommend that this assessment is undertaken by a suitably qualified professional and meets the requirements of *Scottish Planning Policy* (SPP, 2014), the *Historic Environment Policy for Scotland* (HEPS, 2019) and associated Managing Change Guidance Notes. Further guidance can also be found in the Cultural Heritage Appendix to the *EIA Handbook* (SNH, HES, 2018).

We note that two scheduled monuments are located inside the site boundary for the development. These are Knockinculloch, enclosures on E slope of, 600m NW of Glenalla (Scheduled Monument, Index no. 3357) and Bencallen Hill, Chambered Cairn (Scheduled Monument, Index no. 3890). We therefore consider that any assessment should pay particular attention to the potential for impacts on these heritage assets and their settings during the construction and operational phases of the development. In line with this, we would expect that mitigation is embedded into the design of the development to reduce and avoid adverse impacts where appropriate. This may involve reducing the visibility of the proposals from these monuments and, also, putting measures in place to ensure the monuments are protected from physical impacts.

We also recommend that ZTV analysis should be used to identify potential impacts on the setting of heritage assets caused during the operational phase of the development. Given the height of the proposed turbines, we do not consider that the 5km study area suggested at Section 8.3 of the EIA Scoping Report (May 2020) is suitable in this instance. We therefore recommend that all nationally important assets located up to 10km from the proposals are appraised and included for detailed assessment where there is a potential for impacts on their settings. Individual heritage assets located at a greater distance than 10km of the should also be considered where they are acknowledged to have potentially sensitive settings. As above, we would expect that mitigation is embedded into the design of the development to reduce and avoid adverse setting impacts where appropriate.

From our initial appraisal, we consider that significant impacts may occur on the setting of the below heritage assets. We have provided further detail on these in the attached Annex.

- Knockinculloch, enclosures on E slope of, 600m NW of Glenalla

- [\(Scheduled Monument, Index no. 3357\)](#)
- Bencallen Hill, Chambered Cairn
[\(Scheduled Monument, Index no. 3890\)](#)
- Maxwellston Hill, fort
[\(Scheduled Monument, Index no. 2201\)](#)
- Mote Knowe, motte, Kilkerran
[\(Scheduled Monument, Index no. 2863\)](#)
- Kilkerran House
[\(Category A listed building LB1114\)](#) and [Inventory Designed Landscape GDL238](#)
- Blairquhan
[\(Category A listed building LB19094\)](#) and [Inventory Designed Landscape GDL63](#)

It should be noted, however, that this list is not exhaustive. We would welcome further discussion on this as your assessment is progressed and more detailed ZTV information becomes available.

In addition, 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. While some visualisation viewpoints are included at Figure 5.3 of the EIA Scoping Report (May 2020), we would highlight the requirement for visualisation viewpoints to be selected with the aim of informing an assessment of cultural heritage impacts. We have suggested some visualisation viewpoints in the Annex below, however would welcome further discussion on this also.

Finally, 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, 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 Alison Baisden and they can be contacted by phone on REDACTED or by email on Alison.Baisden@hes.scot.

Yours faithfully,

Historic Environment Scotland

Annex

We consider that the below heritage assets are likely to be affected by the proposals, and would recommend that particular attention is given to them as part of any EIA exercise undertaken. This list is not exhaustive and we would recommend that Zone of Theoretical Visibility (ZTV) analysis is applied to the proposal to provide a basis for selecting sites in the wider area which should be assessed as part of an EIA. We recommend that consideration is given to the potential for impacts on the setting of all nationally important heritage assets located within 10km of the proposals. Individual heritage assets at located a greater distance than 10km of the should also be considered where they are acknowledged to have potentially sensitive settings.

We have provided comments on the significance and setting of these sites in order to inform the EIA process including further revisions to the design of the scheme.

- **Knockinculloch, enclosures on E slope of, 600m NW of Glenalla**
 ([Scheduled Monument, Index no. 3357](#))

This monument comprises an unusual group of enclosures of uncertain date. There are no obvious buildings associated with the enclosures and the most likely explanation for their use is that they are livestock enclosures probably dating from the medieval period, although excavation would be required to clarify this. The monument is located on the SE-facing slope of Knockinculloch hill, close to the northern boundary of the development area. Its setting is characterised by its location on this hillslope and its relationship with the surrounding hills and the Palmullan Burn which runs to the south and east.

We consider that there is a potential for impacts on the setting of his scheduled monument caused by the presence of turbines and other infrastructure in it's vicinity. The proposals may affect views to and from the monument and, also, may give rise to impacts caused by shadow flicker and noise. We therefore recommend that an assessment should give detailed consideration to the potential for impacts on this scheduled monument and its setting. We would expect that mitigation is embedded into the design of the development to reduce and avoid adverse impacts where appropriate. Any such assessment should be informed by visualisations and we welcome further discussion on visualisation viewpoints.

- **Maxwellston Hill, fort**
 ([Scheduled Monument, Index no. 2201](#))

This monument is a later prehistoric hill fort. Two earthwork ramparts and ditches enclose an area approximately 90m by 60m across but there are no clear signs of

structures in the interior. The fort sits on the summit of Mawellston Hill and commands extensive views across the surrounding landscape. Its setting is characterised by its dominant hill top location and its intervisibility with the surrounding landscape. From the information currently available to us, I cannot identify any obvious contemporary sites in the vicinity that it might reference.

We consider that there is a potential for impacts on the setting of his scheduled monument caused by the proposed turbines in combination with other existing, proposed and consented wind farms in the surrounding area. We would therefore recommend that cumulative impacts on the setting of this monument are assessed and examined through the use of cumulative visualisations. Any such assessment should be informed by visualisations and we welcome further discussion on visualisation viewpoints.

- **Mote Knowe, motte, Kilkerran**
([Scheduled Monument, Index no. 2863](#))

Mote Knowe is a small natural hillock near the head of the valley of the Lindsayston Burn, where the natural defences afforded by the landform have been enhanced by the addition of a wall around the summit of the hill. From this location, the site would have controlled access to the high hills from the valley of the Water of Girvan below. The site has been categorised as both a medieval motte and a prehistoric dun; it is possible that it has served both functions. The setting of the monument is characterised by its location up the steep valley of the Lindsayston Burn, overlooking the confluence of Dobbingsstone Burn and Delamford Burn, with the mass of Doughty Hill behind. Views to and from the valley of the Girvan Water below also form part of the setting.

We therefore recommend that an assessment should give detailed consideration to the potential for impacts on this scheduled monument and its setting. Any such assessment should be informed by visualisations and we welcome further discussion on visualisation viewpoints.

- **Kilkerran House**
([Category A listed building LB1114](#) and [Inventory Designed Landscape GDL238](#))

We consider that impacts on the setting of the Category A listed Kilkerran House and its associated Inventory Designed Landscape should be assessed. In particular, consideration should be given to impacts caused by the appearance of turbines in important views to and from these heritage assets. These are likely to include views from the northern boundary of the Inventory Designed Landscape across the open parkland focused on the house backdropped by rising woodland.

Any such assessment should be informed by visualisations and we welcome further discussion on visualisation viewpoints.

- **Blairquhan**
([Category A listed building LB19094](#) and [Inventory Designed Landscape GDL63](#))

We consider that impacts on the setting of the Category A listed Blairquhan House and its associated inventory designed landscape should be assessed. In particular, consideration should be given to impacts caused by the appearance of turbines in important views to and from the main house. These views are key components of the setting of the house and, also, the understanding and appreciation of the Inventory Designed Landscape. We also recommend that consideration is given to the potential for impacts on views across the Inventory Designed Landscape from Kings Hill.

Any such assessment should be informed by visualisations and we welcome further discussion on visualisation viewpoints.

Historic Environment Scotland
 3 June 2020



From: [Redacted]
Sent: 18 May 2020 13:47
To: [Redacted]
Subject: Request for Scoping Opinion for Carrick Wind Farm [WF715719]

Dear [Redacted]

A Windfarms Team member has replied to your coordination request, reference **WF715719** with the following response:

Dear Carolanne,

Name/Location: Carrick Wind Farm

Site Centre/Turbine at NGR/IGR:

- T01 233605.2 599586.2
- T02 233576.1 598818.3
- T03 234318.1 599032.2
- T04 234128.7 598264
- T05 235111.1 599228.1
- T06 234901.9 598457
- T07 235921.8 599406.1
- T08 235636 598659.9
- T09 236396.3 598757.4
- T10 237152.4 598584.7
- T11 237495.5 597897.2
- T12 237257.2 597152.6
- T13 237915.3 598758.1
- T14 238244.6 598051.6
- T15 238010.5 597319.9
- T16 238745.9 598660.9
- T17 239032.7 597943

Development Radius: 0.1KM

- Hub height: up to 125m
- Rotor diameter: up to 75m
- Wind Farm capacity: up to 84MW

*This proposal **cleared** with respect to radio link infrastructure operated by:*

Scottish Power and Scotia Gas Networks

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, developers are advised to seek re-coordination prior to considering any design changes.

Regards

Wind Farm Team

The Joint Radio Company Limited
 REDACTED

Office: REDACTED

*JRC Ltd. is a Joint Venture between the Energy Networks Association (on behalf of the UK Energy Industries) and National Grid.
 Registered in England & Wales: 2990041
<http://www.jrc.co.uk/about-us>*

JRC is working towards GDPR compliance. We maintain your personal contact details in accordance with GDPR requirements for the purpose of "Legitimate Interest" for communication with you. However you have the right to be removed from our contact database. If you would like to be removed, please contact anita.lad@jrc.co.uk.

marinescotland



DD: REDACTED

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

Our ref: FL/49 &50-7

May 27th 2020

Dear

CARRICK WIND FARM, SOUTH AYRSHIRE

Thank you for seeking comment from Marine Scotland Science (MSS) in relation to freshwater and diadromous fish and fisheries on the scoping report for the proposed Carrick wind farm.

MSS recommends that the developer consults our generic scoping and monitoring programme guidelines (<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren>) in relation to water quality and fish populations associated with wind farm developments.

We further recommend that the developer considers the following when carrying out the Environmental Impact Assessment:

- the River Stinchar and Water of Girvan support important salmon and trout populations;
- acidification is a known problem in the area;
- the potential impact on the water quality and aquatic biota associated with forestry operations; and
- the potential cumulative impact on the water quality and aquatic biota as a result of the present proposal and developments which have hydrological connectivity with the proposed wind farm.

Freshwater Fisheries Laboratory, Faskally, Pitlochry, Perthshire
PH16 5LB,
www.gov.scot/marinescotland



MSS notes that the developer intends to contact Ayrshire Rivers Trust to seek information on local fish populations which is good practice. We suggest that the developer also contacts, if not already done so, the Stinchar District Salmon Fishery Board and Girvan District Salmon Fishery Board.

Kind regards,

[REDACTED]

Freshwater Fisheries Laboratory, Faskally, Pitlochry, Perthshire
PH16 5LB,
www.gov.scot/marinescotland



From: [REDACTED]
 Sent: 22 May 2020 11:15
 To: [REDACTED]
 Subject: RE: Request for Scoping Opinion for Carrick Wind Farm

Good morning,
 Thanks for sending the details. The proposed windfarm is not in any of the Met Office consultation zones, so we have no comments to make for the scoping opinion. Indeed we don't need to be consulted further regarding the application.
 Kind regards

[REDACTED]
 Upper Air & Remote Sensing

Met Office, FitzRoy Road, Exeter, Devon, EX1 3PB, United Kingdom
 E-mail: metofficesafeguarding@metoffice.gov.uk
 Web: <https://www.metoffice.gov.uk/services/business-industry/energy/safeguarding>



The Granary | West Mill Street | Perth | PH1 5QP
 T: REDACTED E: info@mountaineering.scot
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By email to: Econsents.Admin@gov.scot

[REDACTED]
 Energy Consents Unit
 Directorate for Energy and Climate Change
 5 Atlantic Quay
 150 Broomielaw
 Glasgow
 G2 8LU

15 May 2020

Dear [REDACTED]

Carrick Wind Farm: Environmental Impact Assessment Scoping Report
ECU reference 00002063

Background and Context

Scottish Power Renewables has submitted a scoping report for a proposed wind farm in the northwest of Galloway Forest Park. The scoping layout is for 17 turbines of 200m blade-tip height. The turbines would be located at base altitudes of c.270-400m OD, giving blade-tip altitudes of up to 600m.

Mountaineering Scotland is a membership organisation with over 14,000 members and is the only recognised representative organisation for hill walkers, climbers, mountaineers and ski-tourers who live in Scotland or who enjoy Scotland's mountains, and acts to represent, support and promote Scottish mountaineering. Mountaineering Scotland also acts on behalf of the 85,000 members of the British Mountaineering Council (BMC) on matters related to landscape and access in Scotland, and provides training and information to mountain users to promote safety, self-reliance and the enjoyment of our mountain environment.

Assessment

Mountaineering Scotland has reviewed the Scoping Report from the perspective of its members' interests and has the following observations.

The site lies within the Galloway Forest Park, within the Galloway Dark Skies Park and partly within its core area, less than 1km from Wild Land Area 01 Merrick, and 5km from the Galloway Hills Regional Scenic area. From the nearest proposed turbine, Shalloch on Minnoch is 7km and The Merrick 12km. Both are Corbetts and popular hillwalking destinations.

The site is within 4km of: Clauchrie, the proposed application site to the south west, the operational Hadyard Hill to the west and the operational Dersalloch to the north east.



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Landscape and Visual Impact Assessment

Three mountain viewpoints are proposed. Other lower hill viewpoints are also proposed, of more local significance, and these seem appropriate. The mountain viewpoints are:

Viewpoint 5: Shalloch-on-Minnoch – agree with its inclusion as a photomontage viewpoint.

Viewpoint 15: The Merrick – agree with its inclusion. It should also have a photomontage as well as being a key cumulative viewpoint.

Viewpoint 22: Blackcraig Hill. While this may have some attraction as a key cumulative viewpoint, it much less popular for hill-walking than Cairnsmore of Carsphairn, which is 7km nearer to the proposed site, and with extensive forward visibility of the proposed development from the standard descent route. We suggest that Cairnsmore of Carsphairn as a viewpoint would be much more useful to assessors and the decision-maker than Blackcraig Hill.

There is no viewpoint proposed for the Rhinns of Kells, despite extensive visibility along its ridge, continuously from its northern half. At the least, a wireline should be provided for one of the summits on the northern half of the ridge, for example Coran of Portmark.

The nearest scoping layout turbine is 3km from the Merrick Wild Land Area. There is potentially widespread visibility of the proposed development across western summits and slopes of the WLA and scattered visibility from summits in the interior of the WLA. A full wild land assessment is required to assess the impact of this.

Socio-economic assessment

The tourism and recreation assessment proposes to draw upon a limited range of ‘visitor attractions’ without taking account of the recreational resource of the open hills, with all the Galloway Corbetts (four out of only seven in the whole of Southern Scotland) and something like 15 Donalds being within 20km of and having visibility of the proposed development. Only one of these – The Merrick – is mentioned in relation to the proposed recreation and tourism assessment. While some others are included as proposed viewpoints, it should be acknowledged that visual impact is not simply an impact in itself but depending on context can have behavioural consequences in terms of tourism and recreation.

Yours sincerely
REDACTED

**Access & Conservation Officer
Mountaineering Scotland**

T: REDACTED

E: access@mountaineering.scot

NATS Safeguarding - Consultation Response

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 23 June 2020 15:29
To: [REDACTED]
Cc: Econsents Admin; NATS Safeguarding
Subject: RE: Request for Scoping Opinion for Carrick Wind Farm (SG29709) OBJECTION

Dear [REDACTED]

We refer to the application above. The proposed development has been examined by our technical safeguarding teams. In the timeframe given to us we have been unable to thoroughly investigate the effects of the proposed development on our Operations, however, the relevant teams are being consulted.

Based on our preliminary technical findings, the proposed development does conflict with our safeguarding criteria. Accordingly, NATS (En Route) plc **objects to the proposal**. We will notify you within 4-6 weeks of the results of our operational assessment. Only if this assessment shows the impact to be acceptable will we be able to withdraw our objection.

We would like to take this opportunity to draw your attention to the legal obligation of local authorities to consult NATS before granting planning permission for a wind farm. The obligation to consult arises in respect of certain applications that would affect a technical site operated by or on behalf of NATS (such sites being identified by safeguarding plans that are issued to local planning authorities).

In the event that any recommendations made by NATS are not accepted, local authorities are further obliged to notify both NATS and the Civil Aviation Authority (“CAA”) of that fact (which may lead to the decision made being subject to review whether by the CAA referring the matter for further scrutiny or by appropriate action being taken in the courts).

As this further notification is intended to allow the CAA sufficient time to consider whether further scrutiny is required, we understand that the notification should be provided prior to any granting of permission. You should be aware that a failure to consult NATS, or to take into account NATS’s comments when deciding whether to approve a planning application, could cause serious safety risks for air traffic.

If you have any queries regarding this matter you can contact us using the details as below.

Kind regards

NATS

NATS Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

Prepared by:
NATS Safeguarding Office
Unmarked



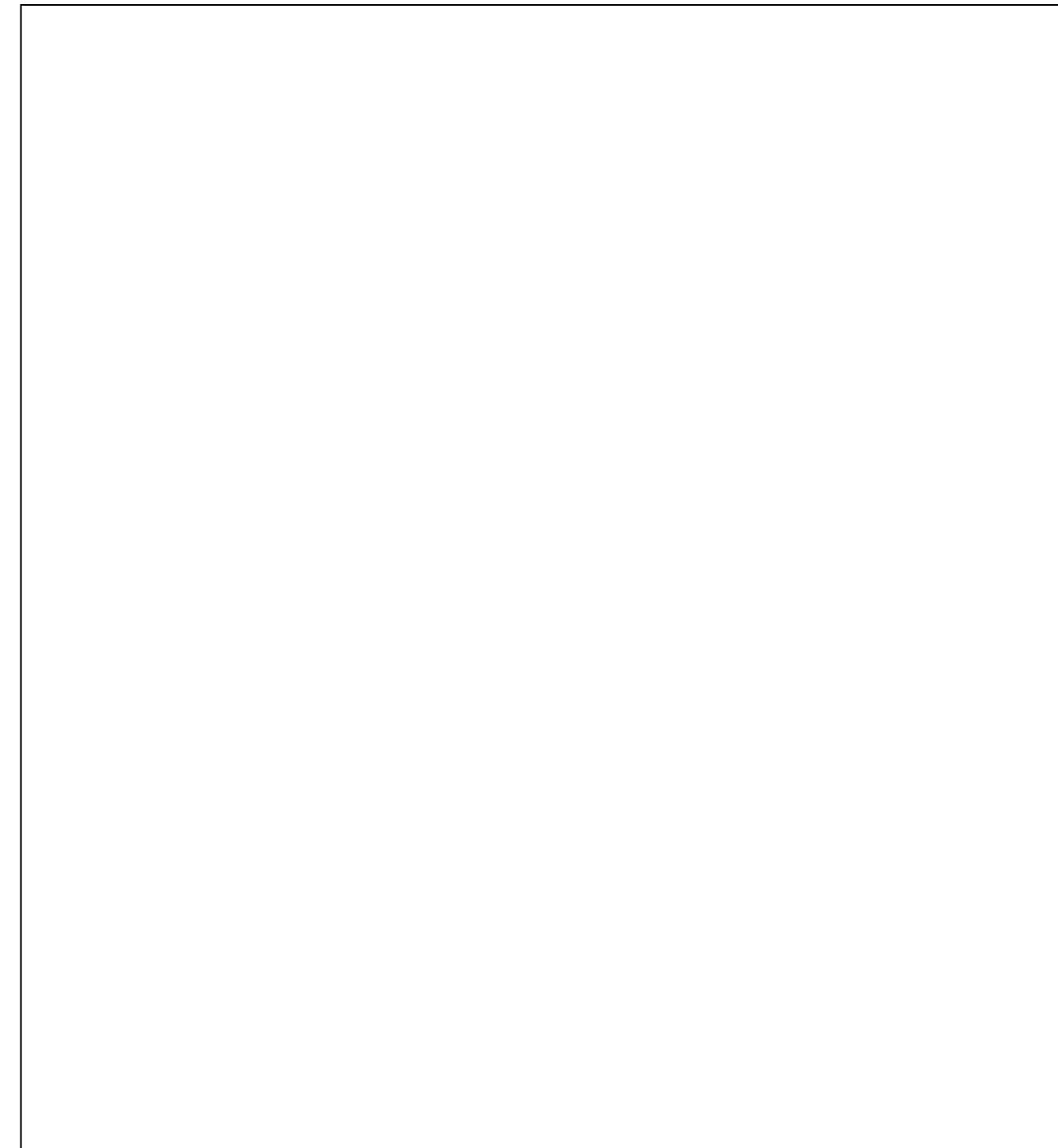
Technical and Operational Assessment (TOPA)

For Carrick Wind Farm

NATS ref: SG29709

LPA ref: ECU00002063

Issue 1



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Publication History

Issue	Month/Year	Change Requests and summary
1	June 2020	Pre-planning assessment

Document Use

External use: Yes

Referenced Documents

1. Background

1.1. En-route Consultation

NATS en-route plc is responsible for the safe and expeditious movement in the en-route phase of flight for aircraft operating in controlled airspace in the UK. To undertake this responsibility it has a comprehensive infrastructure of RADAR's, communication systems and navigational aids throughout the UK, all of which could be compromised by the establishment of a wind farm.

In this respect NATS is responsible for safeguarding this infrastructure to ensure its integrity to provide the required services to Air Traffic Control (ATC).

In order to discharge this responsibility NATS is a statutory consultee for all wind farm applications, and as such assesses the potential impact of every proposed development in the UK.

The technical assessment sections of this document define the assessments carried out against the development proposed in section 3.

2. Scope

This report provides NATS En-Route plc's view on the proposed application in respect of the impact upon its own operations and in respect of the application details contained within this report.

Where an impact is also anticipated on users of a shared asset (e.g. a NATS RADAR used by airports or other customers), additional relevant information may be included for information only. While an endeavour is made to give an insight in respect of any impact on other aviation stakeholders, it should be noted that this is outside of NATS' statutory obligations and that any engagement in respect of planning objections or mitigation should be had with the relevant stakeholder, although NATS as the asset owner may assist where possible.

3. Application Details

Scottish Government submitted a request for a NATS technical and operational assessment (TOPA) for the development at Carrick Wind Farm. It will comprise turbines as detailed in Table 1 and contained within an area as shown in the diagrams contained in Appendix B.

Turbine	Lat	Long	East	North	Hub (m)	Tip (m)
1	55.2623	-4.6201	233605	599586	125	200
2	55.2554	-4.6201	233576	598818	125	200
3	55.2575	-4.6086	234318	599032	125	200
4	55.2506	-4.6111	234129	598264	125	200
5	55.2596	-4.5962	235111	599228	125	200
6	55.2526	-4.5990	234902	598457	125	200
7	55.2614	-4.5836	235922	599406	125	200
8	55.2546	-4.5876	235636	598660	125	200
9	55.2558	-4.5757	236396	598757	125	200
10	55.2545	-4.5638	237152	598585	125	200
11	55.2484	-4.5580	237496	597897	125	200
12	55.2416	-4.5613	237257	597153	125	200
13	55.2563	-4.5519	237915	598758	125	200
14	55.2500	-4.5463	238245	598052	125	200
15	55.2434	-4.5495	238011	597320	125	200
16	55.2557	-4.5388	238746	598661	125	200
17	55.2493	-4.5338	239033	597943	125	200

Table 1 – Turbine Details

4. Assessments Required

The proposed development falls within the assessment area of the following systems:

RADAR	Lat	Long	nm	km	Az (deg)	Type
GDF Radar	54.6841	-2.4509	79.6	147.5	295.8	CMB
Lowther Hill Radar	55.3778	-3.7530	27.9	51.6	255.5	CMB
Perwinnes Radar	57.2123	-2.1309	142.6	264.1	215.8	CMB
Tiree Radar	56.4556	-6.9230	105.9	196.1	131.4	CMB
Nav	Lat	Long	nm	km	Az (deg)	Type
None						
AGA	Lat	Long	nm	km	Az (deg)	Type
None						

Table 2 – Impacted Infrastructure

4.1. En-route RADAR Technical Assessment

4.1.1. Predicted Impact on Lowther Hill Radar

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.2. En-route operational assessment of RADAR impact

Where an assessment reveals a technical impact on a specific NATS' RADAR, the users of that RADAR are consulted to ascertain whether the anticipated impact is acceptable to their operations or not.

Unit or role	Comment
Engineering	Acceptable
Prestwick Centre ATC	Unacceptable

Note: The technical impact, as detailed above, has also been passed to non-NATS users of the affected RADAR, this may have included other planning consultees such as the MOD or other airports. Should these users consider the impact to be unacceptable it is expected that they will contact the planning authority directly to raise their concerns.

4.2. En-route Navigational Aid Assessment

4.2.1. Predicted Impact on Navigation Aids

No impact is anticipated on NATS' navigation aids.

4.3. En-route Radio Communication Assessment

4.3.1. Predicted Impact on the Radio Communications Infrastructure

No impact is anticipated on NATS' radio communications infrastructure.

5. Conclusions

5.1. En-route Consultation

The proposed development has been examined by technical and operational safeguarding teams. A technical impact is anticipated, this has been deemed to be unacceptable.

Appendix A – Background RADAR Theory

Primary RADAR False Plots

When RADAR transmits a pulse of energy with a power of P_t the power density, P , at a range of r is given by the equation:

$$P = \frac{G_t P_t}{4\pi r^2}$$

Where G_t is the gain of the RADAR's antenna in the direction in question.

If an object at this point in space has a RADAR cross section of σ , this can be treated as if the object re-radiates the pulse with a gain of σ and therefore the power density of the reflected signal at the RADAR is given by the equation:

$$P_a = \frac{\sigma P}{4\pi r^2} = \frac{\sigma G_t P_t}{(4\pi)^2 r^4}$$

The RADAR's ability to collect this power and feed it to its receiver is a function of its antenna's effective area, A_e , and is given by the equation:

$$P_r = P_a A_e = \frac{P_a G_r \lambda^2}{4\pi} = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4}$$

Where G_r is the RADAR antenna's receive gain in the direction of the object and λ is the RADAR's wavelength.

In a real world environment this equation must be augmented to include losses due to a variety of factors both internal to the RADAR system as well as external losses due to terrain and atmospheric absorption.

For simplicity these losses are generally combined in a single variable L .

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4 L}$$

Secondary RADAR Reflections

When modelling the impact on SSR the probability that an indirect signal reflected from a wind turbine has the signal strength to be confused for a real interrogation or reply can be determined from a similar equation:

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r_t^2 r_r^2 L}$$

Where r_t and r_r are the range from RADAR-to-turbine and turbine-to-aircraft respectively. This equation can be rearranged to give the radius from the turbine within which an aircraft must be for reflections to become a problem.

$$r_r = \sqrt{\frac{\lambda^2}{(4\pi)^3}} \sqrt{\frac{\sigma G_t G_r P_t}{r_t^2 P_r L}}$$

Shadowing

When turbines lie directly between a RADAR and an aircraft not only do they have the potential to absorb or deflect, enough power such that the signal is of insufficient level to be detected on arrival.

It is also possible that azimuth determination, whether this done via sliding window or monopulse, can be distorted giving rise to inaccurate position reporting.

Terrain and Propagation Modelling

All terrain and propagation modelling is carried out by a software tool called ICS Telecom (version 11.1.7). All calculations of propagation losses are carried out with ICS Telecom configured to use the ITU-R 526 propagation model.

Appendix B – Diagrams

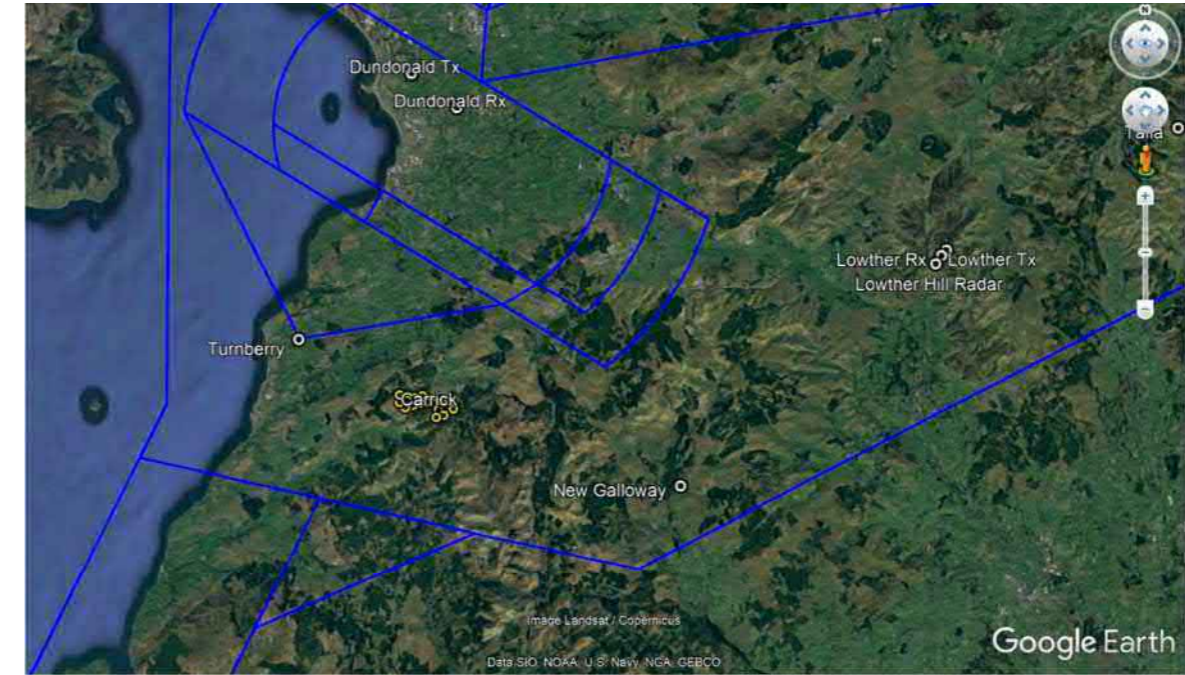


Figure 1: Proposed development location shown on an airways chart

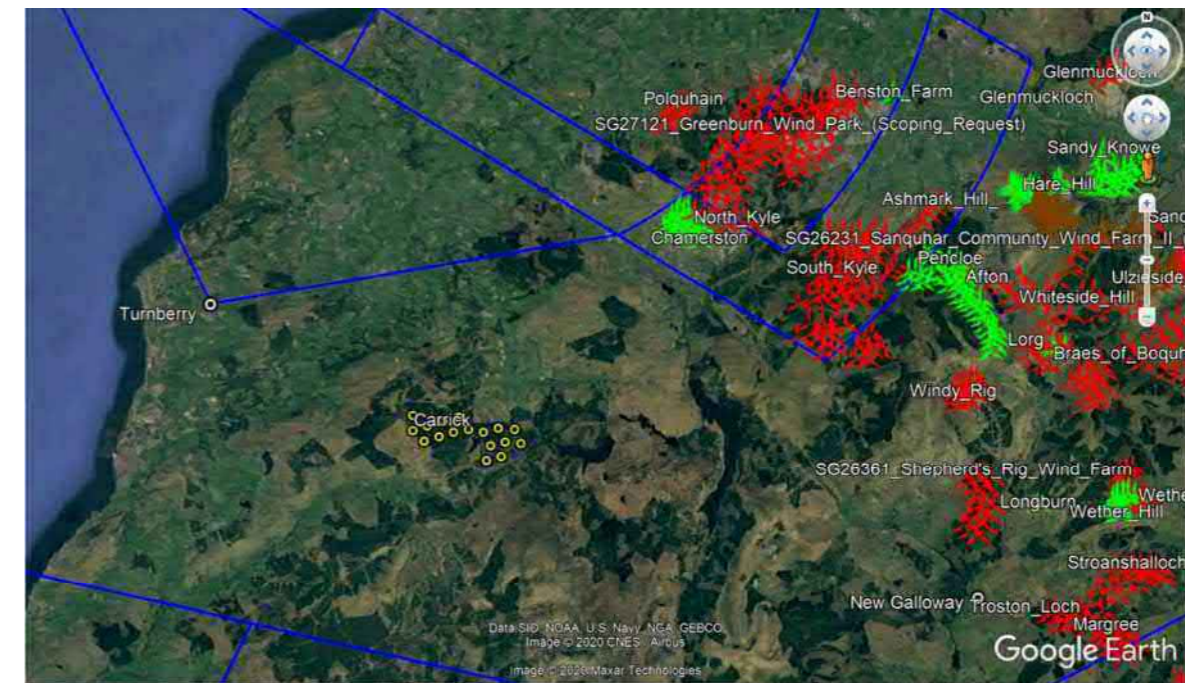


Figure 2 Proposed development shown alongside other recently assessed applications

■ consented/built	■ impact -objection	 no impact
■ mitigation -proposed	■ mitigated	 refused/withdrawn

RSPB - Consultation Response

From: [REDACTED]
Sent: 02 June 2020 14:41
To: Econsents Admin
Cc: [REDACTED]
Subject: Request for Scoping Opinion for Carrick Wind Farm ECU00002063

Follow Up Flag: Follow up
Flag Status: Flagged

Dear [REDACTED]

Thank you for consulting RSPB Scotland on the Scoping Opinion for this development.

Regarding the scope of surveys already undertaken and ongoing we agree with the scope of assessment, survey methodology and target species (Q10). We note the FLS are listed as contacts for data requests to inform baseline species status (7.3.1 Desk study). Since our records confirm lekking black grouse within the development footprint we advise that this species is included in data search request to FLS and that RSPB Scotland is also contacted for data as part of the desk study with particular reference to black grouse and nightjar.

This development is proposed within the Galloway Forest Park which is designated an Important Bird Area (IBA) and which includes black grouse under category B2 of the European IBA criteria. The IBA has also identified renewable energy development as potential threat to the site (threat level 2) <http://datazone.birdlife.org/site/factsheet/galloway-forest-park-iba-united-kingdom/details>. Therefore, impact from this development to this site and related designated species needs to be included in assessment as part of the EIA.

Kind regards,

[REDACTED]
 Senior Conservation Officer Scottish Lowlands and Southern Uplands

Dumfries & Galloway Area Office, The Old School, Crossmichael, Castle Douglas, Kirkcudbrightshire, DG7 3AP

Tel: REDACTED

REDACTED REDACTED). Mobile REDACTED

rspb.org.uk

Let's give nature a home in Scotland



RSPB Scotland is part of the RSPB, the UK's largest nature conservation charity, inspiring everyone to give nature a home. Together with our partners, we protect threatened birds and wildlife so our towns, coast and countryside will teem with life once again. We play a leading role in BirdLife International, a worldwide partnership of nature conservation organisations.



South Scotland Conservancy
 55/57 Moffat Road
 Dumfries
 DG1 1NP

Tel: REDACTED
 Conservator

Email: southscotland.cons@forestry.gov.scot

26 June 2020

[REDACTED]
 Energy Consent Unit
 Scottish Government
 by email

Dear [REDACTED]

ELECTRICITY ACT 1989 THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR CARRICK WIND FARM

Thank you for consulting Scottish Forestry on the on Scoping Report for the proposed Carrick Wind Farm (proposed development).

Scottish Forestry is the Scottish Government agency responsible for policy, support and regulation of the forestry sector in Scotland. As such Scottish Forestry comments on the potential impact of development proposals on forests and woodlands.

Scottish Forestry welcomes the developers commitment within the Scoping Report to consult with us to ensure that the proposed changes to Carrick Forest address the requirements of the Scottish Government's Control of Woodland Removal Policy and other relevant guidance; and agrees with the approach proposed in respect of assessing the potential environmental impacts of the proposed development on forestry.

There is a strong presumption in favour of protecting Scotland's woodland resources. In line with Scottish Government's wider objective to protect and expand Scotland's woodland cover, applicants are expected to develop their proposal with minimal woodland removal.

The first consideration for all woodland removal decisions should be whether the underlying purpose of the proposals can reasonably be met without resorting to woodland removal. Woodland removal should be allowed only where it would achieve significant and clearly defined additional public benefits. In appropriate cases a proposal for compensatory planting may form part of this balance.

It would appear from Figure 2.4 Indicative Layout and section 13.2 of the Scoping Report that the proposed development falls within the category of woodland removal with a need for compensatory planting. Scottish Forestry acknowledges the developers commitment to minimise woodland loss through keyholing infrastructure in to the felling and restocking plans.

Scottish Forestry is the Scottish Government agency responsible for forestry policy, support and regulation

S e Coilltearachd na h-Alba a' bhuidheann-ghnìomha aig Riaghaltas na h-Alba a tha an urra ri poileasaidh, taic agus riaghladh do choilltearachd



All felling and restocking proposals must be compliant with the UK Forestry Standard.
<https://forestry.gov.scot/sustainable-forestry/ukfs-scotland>

Annex 1 of Scottish Government's policy on control of woodland removal: implementation guidance February 2019 <https://forestry.gov.scot/publications/349-scottish-government-s-policy-on-control-of-woodland-removal-implementation-guidance/viewdocument> provides guidance on the level of information Scottish Forestry expects within an EIA Report, to help us reach an informed decision.

Annex 5 of this guidance provides information on calculating the area of compensatory planting, which will be required as the result of the proposed development.

The applicant should note that any compensatory planning which might be required as a result of the proposed development, may need to be considered under The Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017.
<https://forestry.gov.scot/support-regulations/environmental-impact-assessment>

Please don't hesitate to contact me if you have any question regarding Scottish Forestry's response.

Kind regards

REDACTED



Econsents_Admin@gov.scot

Energy Consents
 Directorate for Energy and Climate Change
 The Scottish Government

17/06/2020

Dear [REDACTED]

**ELECTRICITY ACT 1989
 THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
 (SCOTLAND) REGULATIONS 2017**

**REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION
 FOR CARRICK WIND FARM**

Thank you for your email of 13 May 2020 requesting a scoping response for the above proposed wind energy development. We gratefully acknowledge the additional time allowed for our response.

The National Catalogue of Rights of Way (CROW) shows that right of way SKC7 is affected by the area shown on *Figure 1.1 Site Location Plan*. A rights of way map showing this route is enclosed. As there is no definitive record of rights of way in Scotland, there may be other routes that meet the criteria to be rights of way but have not been recorded as they have not yet come to our notice.

Our Heritage Paths project promotes the *Old Road through Straiton* for its historic interest. This old route which uses right of way SKC7 is shown on enclosed HP map.

Further routes across the application site are described in our popular book *Scottish Hill Tracks* and are shown on the enclosed SHT map. SHT routes 78, 80, 81 and 82 cross the site and/or lie along the boundary. It should be noted that Route 82 (Barr to Straiton and Patna) labelled SKC/HT385/ on our map, follows the line of the above noted right of way. The remaining Routes 80 (Barr to Carsphairn), 81 (Barr to Dalmellington) and 78 (Glen Trool Village to Dalmellington by Tunskeen) form the network of routes shown further south.

Above we have focussed on the immediate area of the proposed development. The applicant proposes a recreational study area of 5km: maps of a wider search area are available from the Society if required by the applicant to inform their Environmental Impact Assessment (EIA).

The Scottish Rights of Way and Access Society, 24 Annandale Street, Edinburgh EH7 4AN (Registered Office)

REDACTED

info@scotways.com

www.scotways.com

ScotWays is a registered trade mark of the Scottish Rights of Way and Access Society, a company limited by guarantee.
 Registered Company Number: SC024243. Scottish Charity Number: SC015460.

You will no doubt be aware that there may now be general access rights over any area of land under the terms of the Land Reform (Scotland) Act 2003. We note that the applicant has consulted the Core Paths Plans, prepared by South Ayrshire Council as part of their duties under this Act.

The application documentation refers to core paths but not to rights of way, or Scottish Hill Track routes when detailing the recreational routes in the *Baseline Conditions*. The recreational baseline has not, as yet, been fully considered. We would have anticipated that rights of way be given consideration by this stage in the application process, however in 12.2.3 the applicant states that they expect to consult with ScotWays to gain an understanding of the rights of way within the recreational study area. The applicant is welcome to get in touch with the Society directly.

The documentation *Figure 2.4 Indicative Layout* indicates the proposed turbine locations but we can find no details or indication of the siting of internal access track routes; if we have inadvertently overlooked this we would welcome it being brought to our attention. It may be that the applicant intends to use some of the tracks that are already in existence across the site, in which case they might intend to use some of the public recreational routes noted above. In order to ensure continued public recreational access, and to protect the recreational routes across the site, we would anticipate that an Access Management Plan be drawn up. We would strongly recommend that this is done in consultation with the access team at South Ayrshire Council.

Although we understand that there is very little guidance regarding the siting of turbines in relation to established paths and rights of way, we would like to draw your attention to the following:

Extract from the Welsh Assembly Government's Technical Advice Note on Renewable Energy (TAN 8)

Proximity to Highways and Railways

2.25 It is advisable to set back all wind turbines a minimum distance, equivalent to the height of the blade tip, from the edge of any public highway (road or other public right of way) or railway line.

Bearing in mind this guidance note and looking at *Figure 2.4 Indicative Layout* it appears that the proposal is to site turbines T07 and T08 in close proximity to right of way SKC7. Additionally turbines T12 and T15 appear close to the route used by Scottish Hill tracks 80 and 81. The Society requests confirmation of minimum separation distances.

The Society is concerned that, at this scoping stage, there is no proposal to limit the lifetime of the proposed development.

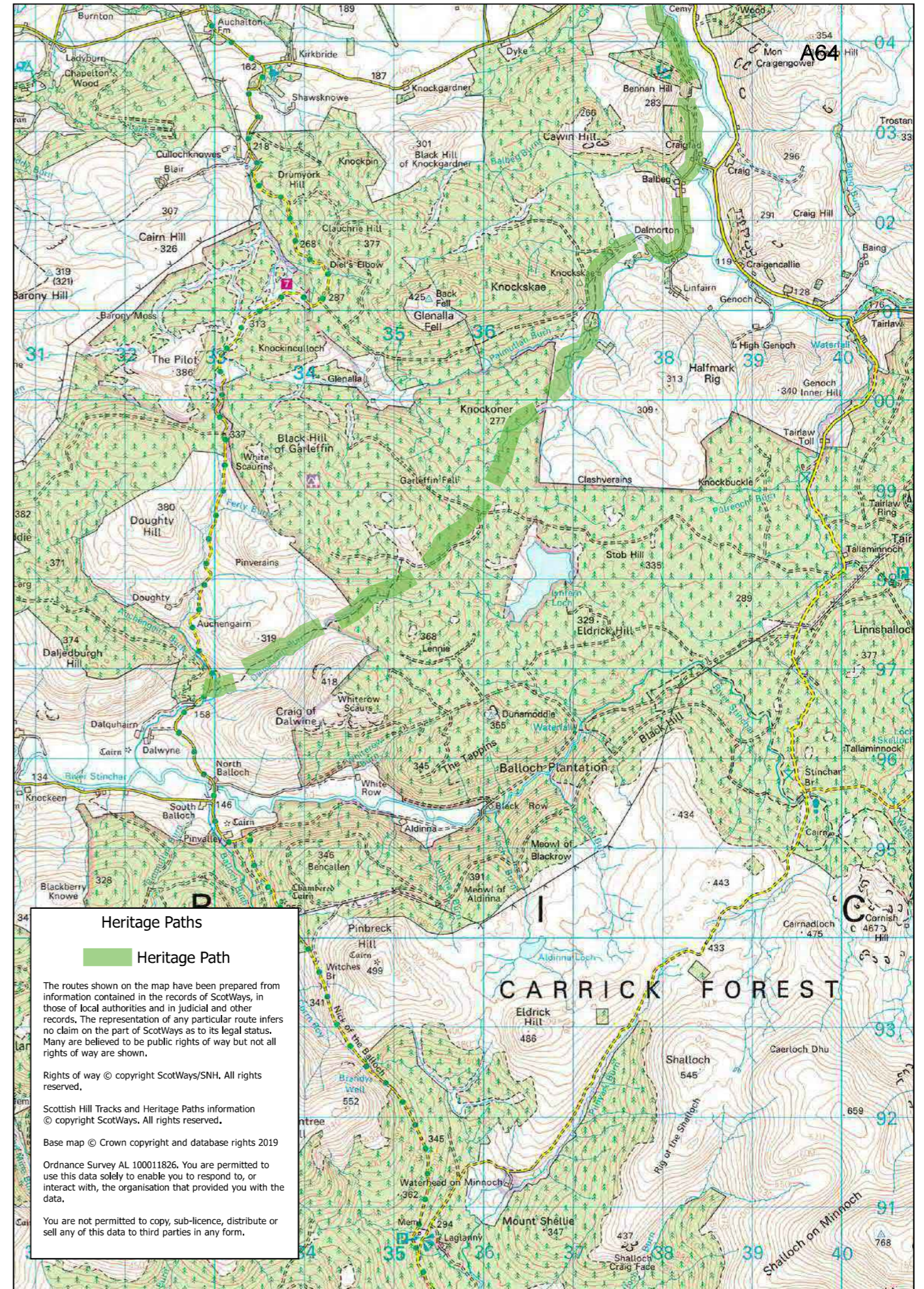
I hope the information above is useful to you. Please do not hesitate to contact me if you need more detail or have any further queries.

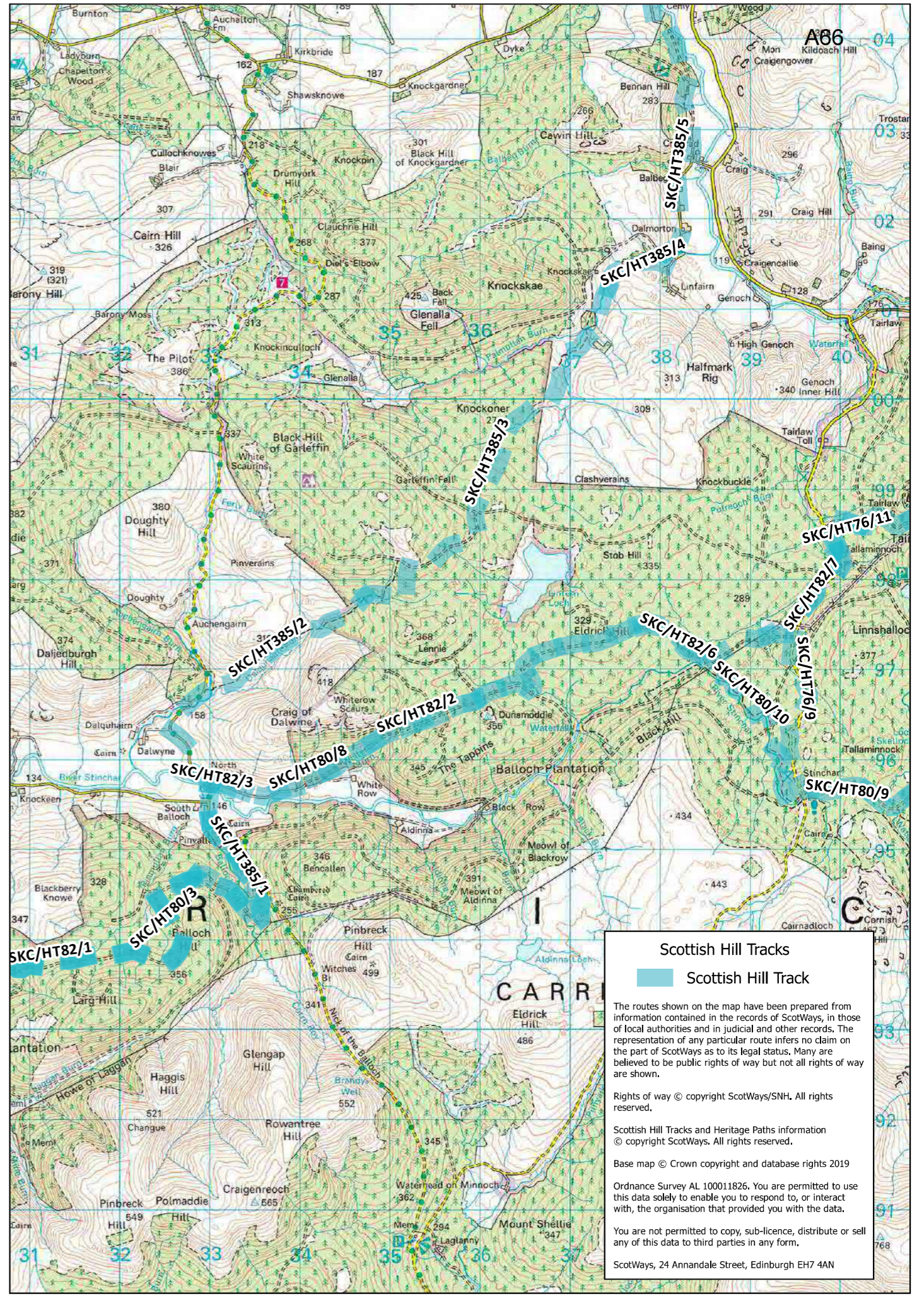
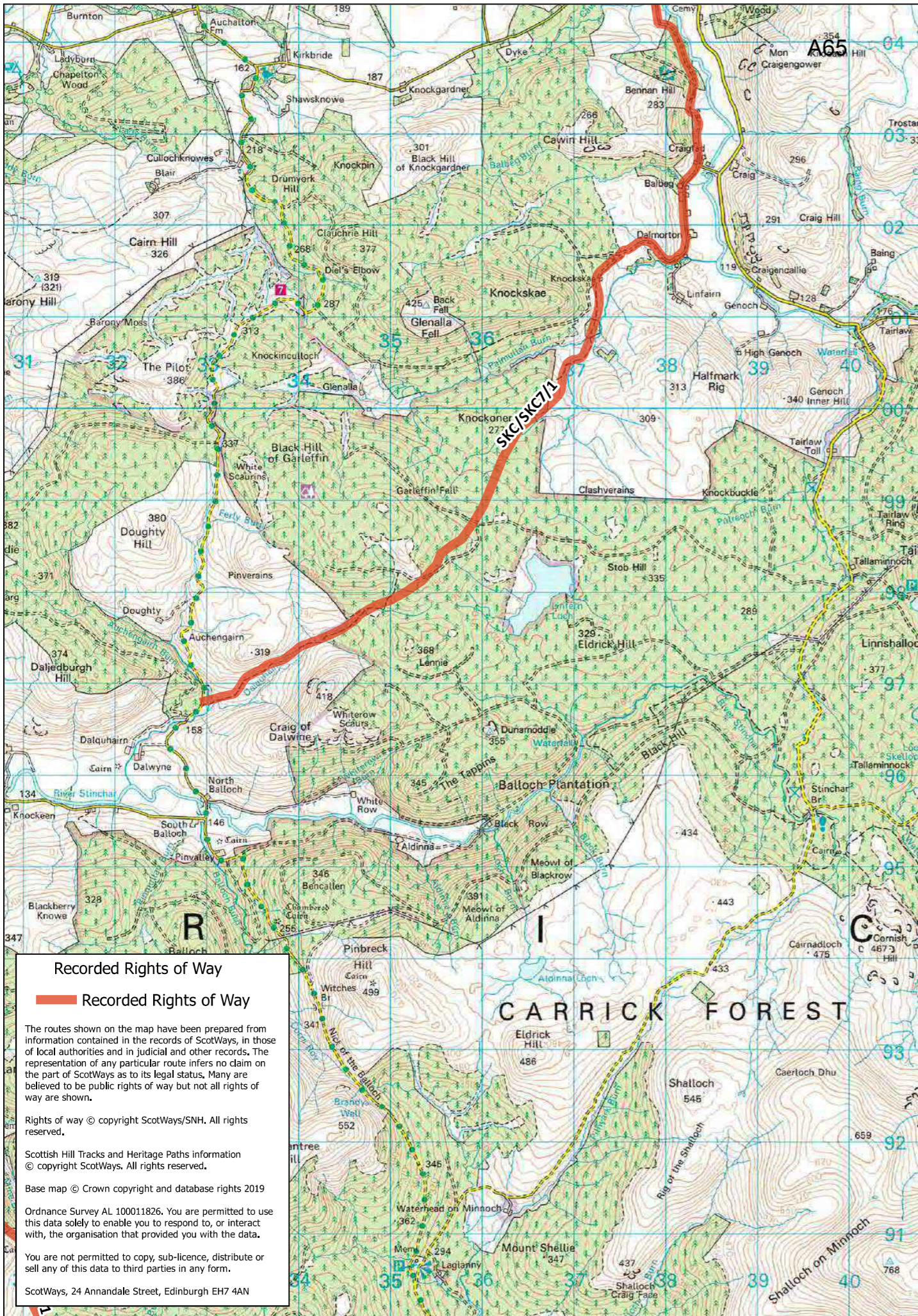
Yours sincerely,

REDACTED

Access Officer

CC [Redacted]







Our ref: PCS/171343
Your ref: EC00002063

If telephoning ask for:

22 June 2020

Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

By email only to: econsents_admin@gov.scot

Dear [REDACTED]

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017
17 wind turbines, with a maximum height to blade tip of 200 metres (m), with associated infrastructure, including the potential for co-located technologies (e.g. energy storage)
Carrick Wind Farm

Thank you for consulting SEPA on the scoping opinion for the above development proposal by your email received on 13 May 2020. We would welcome engagement with the applicant at an early stage to discuss any of the issues raised in this letter.

Advice to the planning authority

We consider that the following key issues must be addressed in the Environmental Impact Assessment process. To **avoid delay and potential objection**, the information outlined below and in the attached appendix must be submitted in support of the application.

- Map and assessment of all engineering activities in or impacting on the water environment including proposed buffers, details of any flood risk assessment and details of any related CAR applications.
- Map and assessment of impacts upon Groundwater Dependent Terrestrial Ecosystems and buffers.
- Map and assessment of impacts upon groundwater abstractions and buffers.
- Peat depth survey and table detailing re-use proposals.
- Map and table detailing forest removal.
- Map and site layout of borrow pits and Borrow Pit Site Management Plan
- Schedule of mitigation including pollution prevention measures.

- Map of proposed waste water drainage layout.
- Map of proposed surface water drainage layout.
- Map of proposed water abstractions including details of the proposed operating regime.
- Decommissioning statement.

Further details on these information requirements and the form in which they must be submitted can be found in the attached appendix (Appendix 1). We also provide site specific comments in the following section which can help the developer focus the scope of the assessment.

1. Site specific comments

- All of the site appears to be within the boundary of existing commercial coniferous forestry plantation, which will have limited habitat diversity, with Groundwater Dependent Terrestrial Ecosystems (GWDTE) confined to rides and margins. However a NVC survey will highlight these.
- It is stated in the Scoping Report that "The area in the south of the Site is deep peat." We expect the application to be supported by a comprehensive site specific Peat Management Plan." Peat depth surveys and management plan should highlight any issues with waste peat or re-use.
- The scoping report by Scottish Power Renewables correctly identifies that Private Water Supplies PWS will require investigation. Just to emphasise that information on all groundwater abstractions must be obtained by a site walkover with additional information from SEPA, Local Authority Environmental Health, the Drinking Water Quality Regulator and local residents. To get information on groundwater including abstractions from SEPA visit our page: <https://www.sepa.org.uk/about-us/access-to-information/#our-information>.
- It is noted that some felling may be required to facilitate the development. The applicant should be reminded that such felling activities may fall within the scope of the waste management regime and any felling plans should be drawn up with reference to [SEPA's current guidance on forestry waste](#).
- The application site appears to lie out with the SEPA Flood Map and we have identified a number of small watercourses within the site boundary for which we do not hold flood risk information and we therefore advise that contact is made with your Flood Risk Management Authority who may have local knowledge and/or possess flood records.

With regards to any new or upgraded watercourse crossings we would generally advise that the number of crossings are minimised and that they are designed to have a neutral, or better, impact on flood risk, particularly with regards to any sensitive surrounding or downstream receptors such as properties and roads. Any opportunities to provide a benefit to any existing flooding problems at a watercourse crossing point should also be investigated

Watercourse crossings should be designed to convey the 0.5% annual probability flows with an allowance for freeboard and should have a minimal afflux (backwater effect) and a clear span structure where possible. In the event of structure surcharge, flow should be able to pass over or around the structure and back into the channel without creating new flow pathways or increasing flood risk elsewhere. This reduces the likelihood of damage to the structures, frequency of maintenance, and increased flood risk downstream. In order to prevent any adverse impact on floodplain storage and conveyance, there should not be an elevation of ground levels within the functional floodplain as a result of a new crossing



Chairman
Bob Downes
Chief Executive
Terry A'Hearn

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Holytown, North Lanarkshire ML1 4WQ
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www.sepa.org.uk • customer enquiries 03000 99 66 99

Works within or close to a watercourse may require a Controlled Activities Regulation (CAR) authorisation. We would direct the applicant to joint SEPA and SNH guidance titled "Good Practice during Wind-farm Construction (<http://www.snh.gov.uk/docs/A1168678.pdf>) which may be of assistance when designing roads and drainage.

As well, it is anticipated that any flood risk issues with regards to new access roads and culverting of watercourses will be addressed at the CAR stage. However, we would direct the applicant to joint SEPA and SNH guidance titled "Good Practice During Wind-farm Construction (<http://www.sepa.org.uk/planning/energy.aspx>). We recommend early contact is made with SEPA's local Environment Protection and Improvement Team regarding this issue.

We would advise that the removal of trees to enable the construction of wind-farms could have varying degrees of associated hydrological impacts.

The destabilisation of soils can lead to erosion and gully formation following heavy rain. This can lead to increased runoff rates and volumes for any subsequent (including non-extreme) rainstorm which may have otherwise been subject to greater interception by the tree canopy. Localised flooding issues may arise. Decreased base-flows and greater flow variability may also be realised with water quality issues, due to higher suspended sediment, also occurring.

The removal of trees can also affect the snowpack stability and hence snowmelt flood probability in that local catchment zone. The tree canopy provides protection to the snow pack from high winds which in the UK is a key physical control on the rate of melt. The tree canopy also provides important shading from direct sunlight. The removal of the trees could therefore have a significant impact in terms of increasing both the likelihood and the rate of snow melt from the site.

Therefore, careful consideration should be given to the extent of deforestation and proposed flood risk mitigation measures.

Regulatory advice for the applicant

2. Regulatory requirements

- 2.1 Authorisation is required under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) to carry out engineering works in or in the vicinity of inland surface waters (other than groundwater) or wetlands. Inland water means all standing or flowing water on the surface of the land (e.g. rivers, lochs, canals, reservoirs).
- 2.2 Management of surplus peat or soils may require an exemption under The Waste Management Licensing (Scotland) Regulations 2011. Proposed crushing or screening will require a permit under The Pollution Prevention and Control (Scotland) Regulations 2012. Consider if other environmental licences may be required for any installations or processes.
- 2.3 A Controlled Activities Regulations (CAR) construction site licence will be required for management of surface water run-off from a construction site, including access tracks, which:
 - is more than 4 hectares,
 - is in excess of 5km, or
 - includes an area of more than 1 hectare or length of more than 500m on ground with a slope in excess of 25°

See SEPA's [Sector Specific Guidance: Construction Sites \(WAT-SG-75\)](#) for details. Site design may be affected by pollution prevention requirements and hence we strongly encourage the applicant to engage in pre-CAR application discussions with a member of the regulatory services team in your local SEPA office.

- 2.4 Below these thresholds you will need to comply with [CAR General Binding Rule 10](#) which requires, amongst other things, that all reasonable steps must be taken to ensure that the discharge does not result in pollution of the water environment. The detail of how this is achieved may be required through a planning condition.
- 2.5 Details of regulatory requirements and good practice advice for the applicant can be found on the [Regulations section](#) of our website. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the regulatory services team in your local SEPA office on: SWS@sepa.org.uk

If you have any queries relating to this letter, please contact me by telephone on REDACTED or e-mail at planning.sw@sepa.org.uk

Yours sincerely


Senior Planning Officer
Planning Service

Disclaimer

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at this time. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning or similar application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application or similar application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. For planning applications if you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found on our [website planning pages](#).

Appendix 1: Detailed scoping requirements

This appendix sets out our scoping information requirements. There may be opportunities to scope out some of the issues below depending on the site. Evidence must be provided in the submission to support why an issue is not relevant for this site in order to **avoid delay and potential objection**.

If there is a delay between scoping and the submission of the application then please refer to our website for our latest information requirements as they are regularly updated; current best practice must be followed.

We would welcome the opportunity to comment on the draft submission. As we can process files of a maximum size of only 25MB the submission must be divided into appropriately named sections of less than 25MB each.

1. Site layout

1.1 All maps must be based on an adequate scale with which to assess the information. This could range from OS 1: 10,000 to a more detailed scale in more sensitive locations. Each of the maps below must detail all proposed upgraded, temporary and permanent site infrastructure. This includes all tracks, excavations, buildings, borrow pits, pipelines, cabling, site compounds, laydown areas, storage areas and any other built elements. Existing built infrastructure must be re-used or upgraded wherever possible. The layout should be designed to minimise the extent of new works on previously undisturbed ground. For example, a layout which makes use of lots of spurs or loops is unlikely to be acceptable. Cabling must be laid in ground already disturbed such as verges. A comparison of the environmental effects of alternative locations of infrastructure elements, such as tracks, may be required.

2. Engineering activities which may have adverse effects on the water environment

2.1 The site layout must be designed to avoid impacts upon the water environment. Where activities such as watercourse crossings, watercourse diversions or other engineering activities in or impacting on the water environment cannot be avoided then the submission must include justification of this and a map showing:

- a) All proposed temporary or permanent infrastructure overlain with all lochs and watercourses.
- b) A minimum buffer of 50m around each loch or watercourse. If this minimum buffer cannot be achieved each breach must be numbered on a plan with an associated photograph of the location, dimensions of the loch or watercourse and drawings of what is proposed in terms of engineering works.
- c) Detailed layout of all proposed mitigation including all cut off drains, location, number and size of settlement ponds.

2.2 If water abstractions or dewatering are proposed, a table of volumes and timings of groundwater abstractions and related mitigation measures must be provided.

2.3 Further advice and our best practice guidance are available within the water [engineering](#) section of our website. Guidance on the design of water crossings can be found in our [Construction of River Crossings Good Practice Guide](#).

2.4 Refer to Appendix 2 of our [Standing Advice](#) for advice on flood risk. Watercourse crossings must be designed to accommodate the 0.5% Annual Exceedance Probability (AEP) flows, or information provided to justify smaller structures. If it is thought that the development

could result in an increased risk of flooding to a nearby receptor then a Flood Risk Assessment must be submitted in support of the planning application. Our [Technical flood risk guidance for stakeholders](#) outlines the information we require to be submitted as part of a Flood Risk Assessment. Please also refer to [Controlled Activities Regulations \(CAR\) Flood Risk Standing Advice for Engineering, Discharge and Impoundment Activities](#).

3. Disturbance and re-use of excavated peat and other carbon rich soils

3.1 Scottish Planning Policy states (Paragraph 205) that "Where peat and other carbon rich soils are present, applicants must assess the likely effects of development on carbon dioxide (CO₂) emissions. Where peatland is drained or otherwise disturbed, there is liable to be a release of CO₂ to the atmosphere. Developments must aim to minimise this release."

3.2 The planning submission must a) demonstrate how the layout has been designed to minimise disturbance of peat and consequential release of CO₂ and b) outline the preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, drainage channels, cable trenches, or the storage and re-use of excavated peat. There is often less environmental impact from localised temporary storage and reuse rather than movement to large central peat storage areas.

3.3 The submission must include:

- a) A detailed map of peat depths (this must be to full depth and follow the survey requirement of the Scottish Government's [Guidance on Developments on Peatland - Peatland Survey \(2017\)](#)) with all the built elements (including peat storage areas) overlain to demonstrate how the development avoids areas of deep peat and other sensitive receptors such as Groundwater Dependent Terrestrial Ecosystems.
- b) A table which details the quantities of acrotelmic, catotelmic and amorphous peat which will be excavated for each element and where it will be re-used during reinstatement. Details of the proposed widths and depths of peat to be re-used and how it will be kept wet permanently must be included.

3.4 To avoid delay and potential objection proposals must be in accordance with [Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste](#) and our [Developments on Peat and Off-Site uses of Waste Peat](#).

3.5 Dependent upon the volumes of peat likely to be encountered and the scale of the development, applicants must consider whether a full Peat Management Plan (as detailed in the above guidance) is required or whether the above information would be best submitted as part of the schedule of mitigation.

3.6 Please note we do not validate carbon balance assessments except where requested to by Scottish Government in exceptional circumstances. Our advice on the minimisation of peat disturbance and peatland restoration may need to be taken into account when you consider such assessments.

4. Disruption to Groundwater Dependent Terrestrial Ecosystems (GWDTE)

4.1 GWDTE are protected under the Water Framework Directive and therefore the layout and design of the development must avoid impact on such areas. The following information must be included in the submission:

- a) A map demonstrating that all GWDTE are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the

distances require it.

- b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all GWDTE affected.

4.2 Please refer to [Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems](#) for further advice and the minimum information we require to be submitted.

5. Existing groundwater abstractions

5.1 Excavations and other construction works can disrupt groundwater flow and impact on existing groundwater abstractions. The submission must include:

- a) A map demonstrating that all existing groundwater abstractions are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it.
- b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all existing groundwater abstractions affected.

5.2 Please refer to [Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems](#) for further advice on the minimum information we require to be submitted.

6. Forest removal and forest waste

6.1 Key holing must be used wherever possible as large scale felling can result in large amounts of waste material and in a peak release of nutrients which can affect local water quality. The supporting information should refer to the current Forest Plan if one exists and measures should comply with the Plan where possible.

6.2 Clear felling may be acceptable only in cases where planting took place on deep peat and it is proposed through a Habitat Management Plan to reinstate peat-forming habitats. The submission must include:

- a) A map demarcating the areas to be subject to different felling techniques.
- b) Photography of general timber condition in each of these areas.
- c) A table of approximate volumes of timber which will be removed from site and volumes, sizes of chips or brash and depths that will be re-used on site.
- d) A plan showing how and where any timber residues will be re-used for ecological benefit within that area, supported by a Habitat Management Plan. Further guidance on this can be found in [Use of Trees Cleared to Facilitate Development on Afforested Land – Joint Guidance from SEPA, SNH and FCS](#).

7. Borrow pits

7.1 Scottish Planning Policy states (Paragraph 243) that “Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries, they are time-limited; tied to a particular project and appropriate reclamation measures are in place.” The submission must provide sufficient information to

address this policy statement.

7.2 In accordance with Paragraphs 52 to 57 of Planning Advice Note 50 [Controlling the Environmental Effects of Surface Mineral Workings](#) (PAN 50) a Site Management Plan should be submitted in support of any application. The following information should also be submitted for each borrow pit:

- a) A map showing the location, size, depths and dimensions.
- b) A map showing any stocks of rock, overburden, soils and temporary and permanent infrastructure including tracks, buildings, oil storage, pipes and drainage, overlain with all lochs and watercourses to a distance of 250 metres. You need to demonstrate that a site specific proportionate buffer can be achieved. On this map, a site-specific buffer must be drawn around each loch or watercourse proportionate to the depth of excavations and at least 10m from access tracks. If this minimum buffer cannot be achieved each breach must be numbered on a plan with an associated photograph of the location, dimensions of the loch or watercourse, drawings of what is proposed in terms of engineering works.
- c) You need to provide a justification for the proposed location of borrow pits and evidence of the suitability of the material to be excavated for the proposed use, including any risk of pollution caused by degradation of the rock.
- d) A ground investigation report giving existing seasonally highest water table including sections showing the maximum area, depth and profile of working in relation to the water table.
- e) A site map showing cut-off drains, silt management devices and settlement lagoons to manage surface water and dewatering discharge. Cut-off drains must be installed to maximise diversion of water from entering quarry works.
- f) A site map showing proposed water abstractions with details of the volumes and timings of abstractions.
- g) A site map showing the location of pollution prevention measures such as spill kits, oil interceptors, drainage associated with welfare facilities, recycling and bin storage and vehicle washing areas. The drawing notes should include a commitment to check these daily.
- h) A site map showing where soils and overburden will be stored including details of the heights and dimensions of each store, how long the material will be stored for and how soils will be kept fit for restoration purposes. Where the development will result in the disturbance of peat or other carbon rich soils then the submission must also include a detailed map of peat depths (this must be to full depth and follow the survey requirement of the Scottish Government’s [Guidance on Developments on Peatland - Peatland Survey \(2017\)](#)) with all the built elements and excavation areas overlain so it can clearly be seen how the development minimises disturbance of peat and the consequential release of CO₂.
- i) Sections and plans detailing how restoration will be progressed including the phasing, profiles, depths and types of material to be used.
- j) Details of how the rock will be processed in order to produce a grade of rock that will not cause siltation problems during its end use on tracks, trenches and other hardstanding.

8. Pollution prevention and environmental management

8.1 One of our key interests in relation to developments is pollution prevention measures during the periods of construction, operation, maintenance, demolition and restoration. A schedule of mitigation supported by the above site specific maps and plans must be submitted. These must include reference to best practice pollution prevention and construction techniques (for example, limiting the maximum area to be stripped of soils at any one time) and regulatory requirements. They should set out the daily responsibilities of ECOWs, how site inspections will be recorded and acted upon and proposals for a planning monitoring enforcement officer. Please refer to [Guidance for Pollution Prevention \(GPPs\)](#).

9. Life extension, repowering and decommissioning

- 9.1 Proposals for life extension, repowering and/or decommissioning must demonstrate accordance with [SEPA Guidance on the life extension and decommissioning of onshore wind farms](#). Table 1 of the guidance provides a hierarchical framework of environmental impact based upon the principles of sustainable resource use, effective mitigation of environmental risk (including climate change) and optimisation of long term ecological restoration. The submission must demonstrate how the hierarchy of environmental impact has been applied, within the context of latest knowledge and best practice, including justification for not selecting lower impact options when life extension is not proposed.
- 9.2 The submission needs to demonstrate that there will be no discarding of materials that are likely to be classified as waste as any such proposals would be unacceptable under waste management licensing. Further guidance on this may be found in the document [Is it waste - Understanding the definition of waste](#).



By e-mail only to: Econsents_Admin@gov.scot

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The Scottish Government
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Date: 18 June 2020

Our ref: CNS/REN/WF/SA – Carrick – CDM159233 – A3246845
Your ref: EC00002063

**Electricity Act 1989 Section 36
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations
2017
Request for Scoping Opinion for proposed Section 36 Application for Carrick Wind
Farm**

Many thanks for your email dated 13 May 2020 requesting a scoping opinion for the above development from Scottish Natural Heritage (SNH). The consultation is supported by the Carrick Wind Farm Scoping Report (May 2020). We also received a memo on the 3 June 2020 from WSP regarding the Landscape and Visual Impact Assessment (LVIA) and Wild Land Area (WLA) assessment for this proposal.

Background

We understand that the development being considered would comprise up to seventeen wind turbines with a maximum blade tip height of 200m, with associated infrastructure, including the potential for co-located technologies such as energy storage. The proposed 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).

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. We also 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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SNH's advice on issues to include in Environmental Impact Assessment

General advice

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/advice-planners-and-developers/renewable-energy-development/onshore-wind-energy/advice-wind-farm>

This provides guidance on issues that developers and their consultants should consider for wind farm 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 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.

Collecting and presenting information

We recommend that the ecological chapters of the Environmental Statement (ES), are split into topics, e.g. protected areas, protected species, habitats (terrestrial, freshwater) etc. The ES should include information and assessment of which activities associated with the construction and operations of the development are likely to have direct and indirect (including cumulative) significant environmental effects on the relevant natural heritage receptors, along with clear details of any mitigation. A schedule of environmental mitigation should be provided in an annex for developments with impacts on natural heritage interests. The schedule should compile all the environmental mitigation/enhancement measures into one list/table, for ease of reference.

Landscape and Visual Impact Assessment

The proposed Carrick Wind Farm would introduce a large number of very tall turbines, which would require lighting, into the South Ayrshire landscape. The site is located in the Galloway Dark Skies Park, partly within its Core Area and is less than 1km from the north western boundary of the Merrick Wild Land Area. This is a very sensitive area for this scale of wind farm development, as corroborated in the recently updated *South Ayrshire Landscape Wind Capacity Study, August 2018*.

We advise that there are likely to be significant landscape and visual impacts arising from the proposed scheme on its own and in combination with existing, adjacent developments. The scale and layout of proposed turbines as well as their relationship to key characteristics are likely to be inconsistent with the other schemes in the vicinity, resulting in a complex and confusing pattern of development. It is our view that these issues are likely to be challenging to resolve.

With turbines proposed at 7km from Shalloch on Minnoch and 12.8km from the Merrick itself, the highest point on the southern Scotland mainland, we very much welcome the fact that the Merrick WLA is ‘*considered to be key for the assessment*’¹ and reiterated in subsequent memo that it will be a *key design principle*². Considering the number of turbines, their height and location we advise that the assessment should take into account both day and night time impacts on the WLA. Accordingly both the wild land assessment and the lighting assessment should take this into account. Importantly there should be night time viewpoint(s) located within the WLA and the wild land assessment should examine how the lighting would affect the wild land qualities at dusk and after dark.

Assessment for turbine lighting

¹ Carrick Wind Farm Scoping report, SPR (May 2020)

² Carrick WLA Memo, WSP (3 June 2020)

Aviation lighting is a key issue for this proposal. Our advice on the assessment for turbine lighting is that it could result in adverse impacts on the wild land qualities of the Merrick Wild Land Area, as well as adverse impacts on views from and within the core area of the Galloway Forest Dark Sky Park. We advise that there should be an assessment of the impact of the development proposal on the WLA, and that this should be informed by an assessment of the effects of its turbine lighting.

Turbines 150m or more in height are required to be fitted with aviation lighting. This means that typically turbines would be lit with red aviation lighting mounted on each nacelle and also fitted with lower intensity lights at the mid-point of the towers. Approved mitigation set out in CAA guidance CAP 764 means that lights can potentially be dimmed from 2000 candela (cd) to 200 cd in good visibility (greater than 5km). Tower lighting would typically be 32cd. The proposed development boundary lies less than 1 km from the WLA boundary. The “*Composite ZTV within Merrick WLA*” (submitted with the 3 June 2020 memo from WSP) indicates visibility from the higher ridges and summits at the north and west of the WLA as well as potential visibility in the northern eastern area of the WLA to the west of and including Macaterick and Mullwharchar.

Our experience is that 200cd lighting can be clearly visible and draw the eye within an unlit context at a distance of 20km. Therefore, based on the information we have and our understanding of aviation lighting we advise that the proposal could introduce eye-catching and prominent lights into an area important for its dark skies.

We advise that the applicant assesses the potential for adverse impacts of aviation lighting on the wild land qualities of the Merrick Wild Land Area. The assessment should follow our draft guidance at <https://www.nature.scot/professional-advice/landscape-change/landscape-policy-and-guidance/landscape-policy-wild-land/wild-land-area-descriptions-and-technical-guidance>.

More generally, the related landscape and visual assessment of turbine lighting should be informed by the scoping advice at Annex 2 of our recently updated ‘general scoping and pre-application advice’ document at <https://www.nature.scot/general-pre-application-and-scoping-advice-onshore-wind-farms>.

The turbine lighting assessment should consider the cumulative effects of lights from other consented or application stage schemes – e.g. Clauchrie and Arecloch extension wind farms. The proposed lighting of the cumulative schemes should be illustrated on the night time photomontage from Shalloch on Minnoch (or suitable agreed viewpoint) and any other night time photomontages.

If directional lighting is to be employed as a form of mitigation, then it would also be useful to include a lighting intensity ZTV within the assessment (this ZTV should also show the boundaries for the Galloway Dark Sky Park and the Merrick Wild Land Area).

Statutory designated sites

Merrick Kells Special Area of Conservation (SAC)

The proposed developable 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