Planning and Environmental Appeals Division

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Report to the Scottish Ministers

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997
PLANNING (LISTED BUILDINGS AND CONSERVATION AREAS)(SCOTLAND) ACT 1997

Report by David Buylla, a reporter appointed by the Scottish Ministers

- Case reference: CIN-ORK-002
- Site Address: Lyness (land near), Hoy, Orkney
- Application by Orkney Islands Council
- Application for planning permission, ref. 20/313/TPPMAJ dated 14 September 2020, called-in by notice dated 16 October 2020
- The development proposed: erect 6 wind turbines (maximum height 149.9 metres, maximum wind farm capacity 50 MW), erect a meteorological mast (maximum height 90 metres), and a substation, construct access tracks, a water crossing and underground cabling, create a borrow pit, and associated infrastructure
- Date of site visit: 2 June 2021

Date of this report and recommendation: 03 September 2021

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Summary of Report into Called-In Planning Application

Erection of six wind turbines (maximum height 149.9 metres, maximum wind farm capacity 50 MW), a meteorological mast (maximum height 90 metres), and a substation, construction of access tracks, a water crossing and underground cabling, creation of a borrow pit, and associated infrastructure at Lyness (land near), Hoy, Orkney

• Case reference	CIN-ORK-002
• Case type	Called in planning application
• Reporter	David Buylla
• Applicant	Orkney Islands Council
• Planning authority	Orkney Islands Council
• Other parties	Historic Environment Scotland, SEPA, NatureScot, RSPB Scotland
• Date of application	14 September 2020
• Date case received by DPEA	16 October 2020
• Method of consideration and date	Written submissions and unaccompanied site inspection on 2 June 2021
• Date of report	03 September 2021
• Reporter's recommendation	Refuse planning permission

Background

Planning permission is sought to develop an onshore windfarm near Lyness in Hoy. The proposal would include six turbines with a maximum blade tip height of 149.9 metres and ancillary development including a permanent meteorological mast, substation, access tracks, a water crossing, underground cabling and a borrow pit.

The applicant is Orkney Islands Council and the call-in direction was made by Ministers in view of the proposal raising matters which are of national importance in the context of expectations set out in National Planning Framework 3 (NPF 3) for the Pentland Firth and Orkney Waters area and the need for an enhanced high voltage energy transmission network, and to avoid any conflict of interest that could have arisen in the event that Orkney Islands Council determined this planning application.

Policy context

The development plan comprises the Orkney Local Development plan and accompanying supplementary guidance.

This application must be determined in accordance with the development plan unless material considerations indicate otherwise.

The main issues for consideration are set out below.

Landscape and visual effects

The proposal would have a number of significant adverse landscape and visual effects within a maximum radius of 10 kilometres of the site, but generally at closer range. Due to what I believe to be the excessive size of the proposed turbines for this location, I do not believe the proposal has been sited and designed taking into consideration the location and the wider townscape, landscape and coastal character. I find the turbines to be too large for the receiving landscape and unacceptably visually intrusive from certain locations.

The proposal would have some significant adverse effects on the visual amenity of local residents but not, I conclude, to an unacceptable degree.

One of the proposed turbines would be situated within the Hoy Wild Land Area (WLA) and others would be visible from within that area and would affect a user's experience of it. I find that there would be significant adverse effects on the qualities of the WLA that could not be substantially overcome by siting, design or other mitigation.

The proposal would also be visible from some locations within the Hoy and West Mainland National Scenic Area (NSA) and from some locations outside that area where the NSA would also be visible. However, I am satisfied the proposal would not have a significant effect on the overall integrity of the area or the qualities for which it has been designated.

For the above reasons, I find the proposal to be contrary to LDP Policies 1 and 7 D (i) (a) and (b).

Ornithology, ecology and nature conservation

I am satisfied that the proposal would not adversely affect the objectives of the designation or the integrity of either the Hoy Special Protection Area (SPA) or the Scapa Flow proposed SPA. I am of the same opinion in relation to the Hoy Site of Special Scientific Interest (SSSI) and the Hoy and North Walls SSSI Moorland Fringes Local Nature Conservation Site (LNCS).

There would be some significant adverse effects on protected species and habitats, but generally at a local scale of significance. Subject to appropriate conditions, I do not believe these effects would be unacceptable and would satisfy the requirements of LDP Policy 9 A, B and C.

Noise

The proposal is capable of complying with ETSU-R-97 cumulative noise limits, albeit at the higher end of the daytime noise range advocated in that guidance. I am satisfied that, in respect of noise effects the proposal meets the expectations of LDP Policy 7 D (i) (a).

Cultural heritage

The proposal would have significant adverse effects on the significance of the category A listed former naval headquarters building on Wee Fea due to the size and proximity of the nearest proposed turbines detracting from an observer's ability to appreciate the strategic wartime significance of the building.

For the category B listed Lyness royal naval cemetery, there would be a moderate (significant) adverse effect due to the turbines appearing as an alien intrusion into the otherwise visually subdued setting to the cemetery. However, a visitor's ability to appreciate its cultural significance and its special interest would not be harmed to the same extent as for the former naval HQ due to the greater sense of the turbines being detached from the heritage asset.

The appellant has offered two compensatory measures to which Ministers should have regard – the creation of a heritage trail and the completion of works to secure the future of the former naval headquarters building (which is on the Buildings at Risk Register) and facilitate batter visitor understanding.

Even with such measures in place, I find the proposal to be contrary to LDP Policy 8.

Geology, hydrology and hydrogeology

Some of the proposed development is situated on relatively deep peat. However, subject to very careful control via planning conditions over how the proposal was constructed and the delivery of a peat restoration plan, the habitat loss and carbon release implications of this should be acceptable. Peat slide hazard and risk would be low.

Overall, I find the proposal to comply with LDP Policy 9 E.

Traffic and transport

Subject to appropriate conditions, there should be no significant residual effects on the local road network or on marine traffic to the island.

Socio-economic, recreation and tourism

Socio-economic benefits arising from this proposal are likely to be modest. However, as there is no evidence to suggest any negative economic effect, the net effect would be positive.

The evidence suggests that, if planning permission for this proposal is refused there is no likelihood of sufficient generating capacity having been secured by December 2022 to justify the development of an interconnector with the Scottish Mainland.

Greater socio-economic benefits could be expected if and when the interconnector is delivered. However, as there is no guarantee that approval of this application would enable the interconnector to be delivered, this potential benefit should be afforded limited weight.

Aviation and radar

Subject to standard conditions including a requirement for infra-red turbine lighting to satisfy the Ministry of Defence, no significant adverse effects on aviation or radar are predicted.

Shadow flicker

The nearest turbine would be within 10 rotor diameters of some sensitive residential and commercial receptors. However, subject to appropriate conditions, any significant and unacceptable shadow flicker effect could be avoided and the proposal would comply with LDP Policy 7 D and the accompanying supplementary guidance.

Conclusions

Energy generation schemes of all kinds are likely to have benefits and disbenefits. The role of the decision maker is to weigh the two against one another to determine whether the planning balance lies in favour of, or against, the proposal.

On the positive side of that equation are considerations including: net economic benefit; the scale of contribution to renewable energy generation targets; and the effects of the proposal on greenhouse gas emissions. In addition to those generic benefits of renewable energy, this proposal has the potential to assist in the delivery of the Orkney interconnector project. However, the lack of a direct connection between the approval of this scheme and the delivery of the interconnector means the weight this can be given must be limited.

I do not find the proposal to be development that would contribute to sustainable development so the proposal can draw no positive weight from that provision of Scottish Planning Policy (SPP).

I believe the identity of the applicant ought to be given some positive weight on this occasion, as its local authority status should ensure that profits from the development were invested locally and therefore had a more noticeable effect than would otherwise be the case.

Despite this, I conclude that the positive socio-economic benefits of this proposal would be modest in comparison with the conflict I have found with the development plan and with the other disbenefits of the proposal including the landscape and visual harm it would cause and its adverse effect on the significance of important cultural heritage assets.

I believe Ministers should have regard to the possibility that the future of the category A listed former naval headquarters building, which must be in doubt given its “at risk” status and deteriorating condition, could be safeguarded by developer-funded works to the listed building. However, even taking this additional benefit into account, I find, on balance, that the harm that would be caused to the significance of the cultural heritage asset would not be outweighed.

My conclusion is that the proposal does not, overall, comply with the development plan and that planning permission should only be granted if justified by material considerations. These include the contribution the proposal would make to climate change mitigation, to the transition to a low-carbon energy economy and the net economic benefit and associated social benefits this would bring.

Following the national and local declarations of a climate emergency, the importance of these considerations must not be underestimated. However, having regard to all of the evidence, I do not believe that the material considerations in favour of this proposal overcome its clear conflict with the development plan.

Recommendation

For the above reasons, I recommend that planning permission be refused. However, if Ministers are minded to grant planning permission, this should be subject to the satisfactory completion of an Appropriate Assessment as set out at paragraphs 1.12 to 1.16 in my main report, and to the 29 conditions listed in Appendix 1 to that report.

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DPEA case reference: CIN-ORK-002

The Scottish Ministers
Edinburgh

Ministers

I conducted an unaccompanied site inspection on 2 June 2021 in connection with an application for planning permission at land near Lyness, Hoy, Orkney. The application proposes the erection of six wind turbines (maximum height 149.9 metres, maximum wind farm capacity 50 MW), a meteorological mast (maximum height 90 metres), and a substation, the construction of access tracks, a water crossing and underground cabling, and the creation of a borrow pit, and associated infrastructure.

The application was called-in by Ministers by a direction dated 16 October 2020. The direction was given in view of the proposal raising matters which are of national importance in the context of expectations set out in National Planning Framework 3 for the Pentland Firth and Orkney Waters area and the need for an enhanced high voltage energy transmission network, and to avoid any conflict of interest that could have arisen in the event that Orkney Islands Council determined this planning application.

The application was accompanied by an environmental report. As the planning authority had not undertaken statutory publicity for the environmental information at the date the application was called-in, this process was undertaken by DPEA. The final deadline for this process was 4 August 2021. It was also necessary for DPEA to commission a technical assessment of the applicant's peat slide hazard and risk assessment from an independent specialist. This was completed on 25 May 2021.

I was unable to inspect the site for several months due to Covid 19 travel restrictions. However, I was able to carry out my inspection prior to the conclusion of the consultation process, so this did not delay the preparation of this report.

My report, which is arranged on a topic basis, takes account of all of the environmental information and all of the submissions made in response to the planning application.

CHAPTER 1: BACKGROUND

Site location and description

1.1 The application site is approximately 1.3 kilometres west of the settlement of Lyness, which is towards the south eastern end of the island of Hoy. The site covers an area of approximately 488 hectares of undulating moorland.

1.2 The six proposed wind turbines would have a maximum blade tip height of up to 149.9 metres and an indicative generating capacity of 28.8 megawatts (MW). The generating capacity figure could change, depending on the precise model of turbine selected. However, the capacity would not exceed 50 MW so the proposal falls below the threshold where consent under The Electricity Act 1989 (instead of planning permission) would be required.

1.3 Ancillary development would include access tracks, a single watercourse crossing, crane hardstandings, underground cabling, an on-site substation and maintenance building, a temporary construction compound, a borrow pit and a permanent meteorological mast (up to 90 metres in height). Depending on the turbine design, external transformers might also be required.

1.4 The applicant has requested that planning permission be granted on a permanent basis. However, it remains open to Ministers to consider whether, if permission were to be granted, this should be for a limited time period with a requirement at the end of that period for site restoration.

1.5 This proposal is one of three that make up Orkney's Community Wind Farm Project. The other two proposals are known as Quanterness (DPEA reference CIN-ORK-001) and Faray. The aims of this project are to: generate income to be used for the benefit of the people of Orkney; respond to the Climate Emergency; and build the case for a new transmission connection for Orkney.

Environmental impact assessment

1.6 This proposal is EIA development under the terms of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 ("the 2017 EIA regulations").

1.7 The 2017 EIA regulations require the decision maker (in this instance Scottish Ministers) to examine all of the submitted environmental information and reach a reasoned conclusion on the significant environmental effects of the proposed development. If Ministers resolve to grant planning permission, this reasoned conclusion must be integrated into the decision notice.

1.8 The EIA report covers the following environmental effects:

- landscape and visual;
- ornithology;
- ecology and nature conservation;

- noise;
- cultural heritage;
- geology, hydrology and hydrogeology;
- traffic and transport;
- socio-economic, recreation and tourism;
- aviation and radar;
- shadow flicker; and
- other issues including telecommunications, marine radar, outdoor access and carbon savings.

1.9 I address most of these effects in turn within subsequent chapters of this report. I deal with ornithology, ecology and nature conservation in a single chapter due to the inter-related nature of the effects. I cover carbon savings within my consideration of geology, hydrology and hydrogeology due to the importance of peat to that issue. Outdoor access is included within my consideration of visual effects in chapter 3. I do not deal with marine radar or telecommunications as no party has challenged the EIA report's conclusions that there would be significant effect. For each potential effect, I set out the findings of the EIA report, the views of consultees and my own conclusions.

1.10 Certain parties, including an environmental specialist commissioned by the council, have criticised the applicant's EIA with regard to the quality of survey, methodology and assessment and hence the validity of the results it found. The applicant's response is that, under the EIA Directive and EIA Regulations, the key defining requirement is to enable the decision maker to come to a "reasoned conclusion on the significant effects of the project on the environment." It too commissioned a peer review of the EIA report and also a legal review, both of which concluded that the EIA report meets the requirements of the EIA Directive and EIA Regulations. On a specific point that the EIA report did not follow the scoping opinion, the applicant points out that the omission of certain matters from the EIA report reflects the fact that the scale of the proposal was reduced significantly (from 30 turbines to 6). It notes that NatureScot has not identified the assessment as being inadequate.

1.11 Having regard to all of the submissions, I am satisfied that the EIA report provides all of the environmental information necessary for Ministers to reach a reasoned conclusion on the significant environmental effects of the proposed development and that it meets the requirements of the 2017 EIA regulations.

Appropriate assessment

1.12 The proposed development is in an area important for nature. It lies adjacent to Hoy SPA, and at the closest point is within two kilometres of the proposed Scapa Flow SPA. The proposed development would have likely significant effects on European Sites and an Appropriate Assessment is required in accordance with the Habitats Regulations.

1.13 LDP Policy 9 A (discussed later in this report) confirms that development will only be permitted where the Appropriate Assessment ascertains that:

a) it would not adversely affect the objectives of the designation or the integrity of the site; or

b) there is no alternative solution; and

c) there are imperative reasons of over-riding public interest, including those of a social or economic nature and compensatory measures are provided to ensure that the overall coherence of the Natura network is protected.

1.14 In Appendix 7.4 of the EIA report, the applicant provides information to assist Ministers in making an Appropriate Assessment. This goes through the legislative requirements at each stage of the process, summarises consultation responses (although some of those have changed slightly since that document was produced as is summarised later in this report), and sets out the applicant's conclusions both on the question of whether a significant effect is likely (and no party has suggested it is not) and the question of whether the integrity of the designated sites is likely to be adversely affected – having regard to individual, cumulative and in-combination effects.

1.15 I recommend that Ministers use this document as the starting point in undertaking their Appropriate Assessment, referring also to the up to date responses from consultees and other interested parties, before reaching a conclusion on the integrity of the designated sites.

1.16 My recommendation (which is consistent with that of NatureScot – summarised below and later in this report) is that there would be no adverse effect on the objectives of designation or the integrity of either the Hoy SPA or Scapa Flow pSPA.

Consultation responses

1.17 **Historic Environment Scotland** believes the proposal would have a significant adverse effect on the setting of the category A listed former naval headquarters and communications centre. Therefore, it **objects** to the proposal. Discussions between HES and the applicant over possible compensatory works to the listed building (which is on the Buildings at Risk register), and/or elsewhere, are discussed in Chapter 6.

1.18 The Scottish Environment Protection Agency (**SEPA**) is generally supportive of renewable energy projects. It originally objected to the proposal due to potentially unacceptable impacts on peat and carbon loss. However, subject to several planning conditions, it is now prepared to withdraw that objection, while still expressing a preference for turbine 4 to be deleted from the scheme or re-sited. This is discussed in Chapter 7.

1.19 **NatureScot** finds the proposal would have some significant adverse effects on the special landscape qualities of the Hoy and West Mainland National Scenic Area (the NSA) but would not compromise the objectives of the designation or its overall integrity. It would have some significant adverse effects on the wild land qualities of the Hoy Wild Land Area, but these are not considered to be of national interest. NatureScot does not believe that natural heritage interests of international importance (European sites) would be adversely affected. It is also satisfied there would be no significant effect on the qualifying features of the Hoy SSSI. It identifies a degree of uncertainty over the potential for effects on the

Orkney/Natural Heritage Zone population of hen harriers. It recommends that post-construction monitoring of hen harrier collisions is undertaken during the operational phase of the wind farm, and that data from this monitoring is made available to inform future development in Orkney. It notes that the proposal would result in the loss and damage of peatland habitat, but finds the quality of the habitat affected not to be of national interest.

1.20 **RSPB Scotland** has significant concerns relating to the impacts of this proposal on a variety of key species and their habitats. These are detailed in Chapter 4 of this report. As a consequence of these concerns, RSPB Scotland **objects** to the proposal.

1.21 The council's **roads service** raises some queries over off-site elements of the proposal including the precise location of the proposed concrete batching plant at Lyness quay / pier, the source of the construction stone if Witter Quarry proved unsuitable and the possible need for an alternative or additional peatland habitat restoration area if that indicated near Heldale proved insufficient / unsuitable. All of these issues raise queries over impact on the public road network. They are discussed in Chapter 8.

1.22 The council's **engineering service** has no objections subject to certain requirements relating to surface water management and peat slide assessment that are detailed in Chapter 7.

1.23 The council's **environmental heath** team is of the view that the noise survey work was undertaken in accordance with ETSU-R-97 and the Good Practice Guides / Supplementary Practice Guides from the Institute of Acoustics. It has no objections subject to conditions.

1.24 The council's **public access** team believes the proposal is likely to enhance opportunities for public outdoor access within the development site.

1.25 The council's **environmental policy planner** raised a number of questions and/or criticisms of the EIA methodology.

1.26 The **county archaeologist** is satisfied with the EIA report's assessment of archaeology subject to a minor change to the proposed watching brief so that it requires the study of any areas of deep peat for pollen, plant and insect remains or archaeological interest. An impact on the setting of the Scapa Flow World War 2 monuments is recognised. However, it is considered that key sight lines are to be preserved by design – especially important in the case of the cemetery at Lyness.

1.27 **Orkney Heritage Society** comments that all cabling for the project should be underground.

1.28 **Orkney Field Club (OFC) objects** to the proposal due to landscape and visual impact affecting one of the most beautiful and dramatic landscapes of the northern isles and the harm it would cause to important wildlife and habitats for which the area is nationally and internationally important. OFC believes it is difficult to conceive of a worse site for a windfarm. These issues are considered in Chapters 3 and 4 of this report.

1.29 **NATS (En route) plc** has no safeguarding objection.

1.30 **The Ministry of Defence** has no objections subject to the turbines being fitted with MOD-accredited aviation safety lighting (red or infra-red). Chapter 10 of this report deals with aviation and radar issues.

1.31 **Scottish Water** has no objections.

1.32 **Marine Scotland** has issued standard advice to the applicant on fish and has raised no objections to the proposal.

1.33 **The John Muir Trust** (the JMT) notes that the proposal was scaled down to reduce impacts on wildlife, ecology and landscape and welcomes the applicant's approach in that regard. The JMT would like to see this community project succeed but is unable to support the proposed siting of one of the turbines within the Hoy Wild Land Area. It notes that this wild land area is already one of the smallest in the country and is therefore particularly sensitive to attrition of its boundary. The JMT believes that allowing a turbine to be built within the wild land area could set a harmful precedent.

1.34 **British Telecommunications plc** confirms that the proposal should not cause interference to BT's current and presently planned radio network. There are no active or planned BT radio links within 500 metres of the location and BT requires a 100 metre minimum infringement zone.

1.35 **The Highland Council** is satisfied that there would no significant impact that could be deemed unacceptable in relation to the assets and resources within The Highland Council area.

1.36 **The British Dragonfly Society** is concerned about the impact of the works on the hydrology of the area and dragonfly habitat. Chapter 4 deals with these issues.

Representations

1.37 Representations have been received from 14 parties; 12 objecting to the proposal and two in support.

1.38 Points of objection are as follows:

- Very little consultation has taken place the community who will have to pay most of the cost of this wind farm.

- This proposal cannot be viewed in isolation, as to meet the Ofgem requirement, many more schemes would need to be approved, turning Orkney into an industrial site.

- The visual impact of the windfarm and its related infrastructure would harm the beautiful island of Hoy. The height of the proposed turbines is higher than the hill on which they would be sited, which would diminish its apparent scale – giving the impression of a smaller and less wild landscape when seem from both nearby and far away.

- The amount of carbon-retaining peat that would have to be removed is unlikely ever to be compensated for by the low-carbon generation of the proposed turbines.

- The potential danger to wildlife such as the sea eagle.

- Proposed turbine 4 is within Wild Land and very close to a groundwater dependant terrestrial ecosystem (GWDTE). The site is within 4.5 kilometres of the Hoy and West Mainland National Scenic Area.

- Possible proposals for two large off-shore windfarms near Orkney would generate more power than all of the land-based projects put together and would not destroy the beauty of the islands on which tourism depends.

- Orkney Council is incapable of running a project like this.

- The category A listed Royal Navy Communication Centre within the application site is an important element in the heritage landscape of Lyness and Scapa Flow. Turbine 1 would overwhelm the building (and the surrounding hillside) particularly when viewed from important landmarks such as the Lyness Naval Cemetery or the Scapa Flow Museum.

- Lyness is a settlement of 28 homes and businesses and should therefore be protected by the 2 kilometre settlement buffer – an Area of Significant Protection. Café users would have an oppressive view of the turbines and there are occupied houses closer to turbine 1 than the war cemetery, which is described as "worst case".

- Inadequate net economic benefit has been presented to justify the development. The EIA report predicts barely any benefit.

- There has been inadequate assessment of residential visual amenity effects. Inaccurate assumptions have been made for at least six properties as to window position / orientation.

- Inadequate mitigation is proposed.

- There must be sites in Orkney with fewer development constraints than this one.

- Enforcement of noise and shadow flicker control would rest with the same agency as the applicant. One local resident has a medical condition making them particularly susceptible to flickering light.

- The EIA report acknowledges a significant adverse residual effect on white-tailed eagle, curlew and snipe.

- How would the proposal alleviate fuel poverty on Orkney, which is a nationally recognised problem?

- Concern expressed that stone required for turbine bases etc. could be sourced off-site leading to noise disturbance and pollution.

- Landscape degradation caused by wartime remains does not justify the proposal.

- The site has significant coverage of Class 1 peat. This is of international importance in climate management and environmental recovery.

- Given that the proposed equipment will inevitably deteriorate, details should have been provided of decommissioning. The requested in-perpetuity consent is contrary to LDP Policy 7.

- Permission should not be granted until there is clarity on the use of sulphur hexafluoride within the project.

- The quality of survey, methodology and assessment within the EIA report show significant failings.

- The base height of the proposed turbines varies greatly and proposed access tracks would cut across contours, all confirming poor design.

- The council's own landscape capacity assessment for wind energy showed no capacity for large turbines in this landscape.

- A lower noise fixed minimum level was adopted for the Quanterness proposal (35 dB). A similar approach should be taken here rather than using 40 dB

1.39 Points in support include:

- This is key part of the push to connect Orkney to the electrical transmission network, which is vital for increasing local generation capacity and fighting climate change.

- We desperately need some form of industry to keep a healthy balance of young and old on the island.

- A minority of people do not want to see any change on Hoy but I'd be happy to look out of our window at a few giant turbines making green energy.

CHAPTER 2: POLICY CONTEXT

2.1 This planning application must be determined in accordance with the development plan unless material considerations indicate otherwise.

2.2 The development plan is the Orkney Local Development Plan 2017 (the LDP) and accompanying supplementary guidance. Of relevance to this proposal are: Supplementary Guidance: Energy; Natural Environment; and Historic Environment and Cultural Heritage. All date from 2017.

2.3 The LDP's vision seeks to strengthen and support Orkney's communities by enabling development that would have a positive and sustainable socio-economic impact. Part of the applicant's argument in favour of this proposal is the positive socio-economic effect it would have. I discuss this in Chapter 9. The vision also confirms that the LDP's policies aim to ensure that all appropriate energy generation schemes will be supported.

2.4 LDP Policy 1 sets out a series of assessment criteria that apply to all forms of development. Not all are applicable to a wind energy proposal. Those that I consider to be relevant are set out below:

> i. It is sited and designed taking into consideration the location and the wider townscape, landscape and coastal character;
>
> iii. It is not prejudicial to the effective development of, or existing use of, the wider area;
>
> iv. The amenity of the surrounding area is preserved and there are no unacceptable adverse impacts on the amenity of adjacent and nearby properties/users;
>
> vi. It does not result in an unacceptable level of risk to public health and safety;
>
> vii. It is resource efficient and utilises sustainable construction technologies, techniques and materials and, where practicable, low and zero carbon generating technologies are installed;
>
> viii. It facilitates the prevention, reuse, recycling, energy recovery and disposal of waste, including where relevant, the use of Site Waste Management Plans;
>
> ix. It protects and where possible enhances and promotes access to natural heritage, including green infrastructure, landscape and the wider environment; and
>
> x. It protects and where possible enhances Orkney's cultural heritage resources.

2.5 LDP Policy 7 offers support to the use of renewable and low carbon technologies and seeks to facilitate appropriate developments associated with a variety of types of renewable energy generation. The aim is to ensure that Orkney's full potential for electricity and heat from renewable sources is achieved, whilst ensuring that there are no unacceptable effects on relevant environmental and community considerations.

2.6 Part C of Policy 7 applies to all renewables and low carbon developments. It has three requirements as follows:

i. The development of renewable and low carbon energy schemes, including the onshore infrastructure and/or buildings required for offshore marine renewable energy developments, and related transmission infrastructure, will be supported where it has been demonstrated that the proposal will not result in significant adverse effects on known constraints, either individually or cumulatively. Sufficient supporting information must be submitted with any planning application to enable a full assessment to be made of the likely effects of the development.

ii. Conflict with adjoining uses must be avoided and developments may not compromise the viability of any existing land use allocation or approved land use proposal in the surrounding area.

iii. The net-economic impacts of a proposal, including local and community socio-economic benefits such as employment, associated businesses and supply chain opportunities, will be taken into consideration and any demonstrable benefits will be balanced against any identified adverse impacts on known constraints.

2.7 Part D of Policy 7 applies to onshore wind energy development and is therefore particularly relevant to this proposal. This sets out four requirements of which three are relevant to a development of this scale:

i. Proposals for wind energy developments of all scales, including extensions to existing developments and repowering, will be assessed against the following factors to ensure that there will be no significant adverse individual or cumulative impacts:

a. Communities and Amenity

b. Landscape and Visual Impact

c. Natural Heritage

d. Historic Environment

e. Tourism and Recreation

f. Peat and Carbon Rich Soils

g. Water Environment

h. Aviation, Defence and Communications

i. Construction and Decommissioning

iii. Applications for any windfarms should take account of the Spatial Strategy Framework for windfarm development:

a . Areas with potential capacity to accommodate wind farms have been identified as 'Areas with Potential for Wind Farm Development'; representing the areas of least constraint to wind energy development. Wind energy development is likely to be supported in principle within these areas, subject to proposals complying with the Development Criteria from Supplementary Guidance: Energy and any other material planning consideration.

b. Within the 'Areas of Significant Protection' wind farm development may be supported when a proposal complies with the Development Criteria from Supplementary Guidance: Energy and where it can be demonstrated by the applicant that any significant effects on the qualities of these areas can be overcome by siting, design or other mitigation.

c. Wind farm developments will not be supported within the National Scenic Area.

iv. Throughout the lifetime of the Plan, OIC will investigate potential 'Strategic Wind Energy Development Areas' within which the principle of wind farm developments will be supported. Any such areas will be subject to appropriate assessment and full public consultation before being adopted within Supplementary Guidance: Energy

2.8 All of the factors that are listed in part i of Policy 7 D were assessed by the applicant and reported in its EIA report. I consider each of these within this report. This part of the policy seeks to "ensure that there will be no significant adverse individual or cumulative impacts." That is, on its face, a very onerous requirement, as it would be difficult for any commercial windfarm development not to introduce some significant adverse effects, particularly landscape and visual effects at close range. I have borne that in mind when assessing the implications of any failure to satisfy this policy expectation.

2.9 Policy 8 deals with cultural heritage and historic environment issues. It covers all aspects of the historic environment, whether statutorily designated or not.

2.10 Part A of the policy relates to all development. It offers support to proposals that would preserve or enhance the archaeological, architectural, artistic, commemorative or historic significance of cultural heritage assets. Where a proposal would have adverse effects on such interests, development is only supported where mitigation measures would be taken and where any lost significance which could not be mitigated would be outweighed by social, economic, environmental or safety benefits.

2.11 Part B of Policy 8 sets out specific policy considerations for different types of cultural heritage asset. These are considered in Chapter 6 of this report.

2.12 LDP Policy 9 covers natural heritage and landscape. These matters are considered in chapters 3, 4 and 7 of this report.

2.13 Part A deals with designated sites ranging from those with international designations- Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), through nationally designated sites such as sites of special scientific interest (SSSIs) to locally important sites such as local nature conservation sites (LNCSs).

2.14 Part B deals with protected species. It confirms that development likely to have an adverse effect on any protected species will not be permitted unless it can be justified in accordance with the relevant protected species legislation.

2.15 Part C with wider biodiversity and geodiversity issues. This expects all proposals to seek to avoid damage to or loss of biodiversity and geodiversity and to have particular regard to priority habitats and species identified in the UK Biodiversity Action Plan, the Scottish Biodiversity List, the list of Priority Marine Features and the Orkney Local Biodiversity Action Plan.

2.16 Part D relates to the water environment. It expects proposals to protect, and where possible improve, the water environment.

2.17 Part E covers peat and soils. This has particular relevance to this proposal, as a significant area of the site contains Class 1 peat. Part E confirms that development on peat or carbon-rich soils will only be permitted where the following apply:

> a) it has been clearly demonstrated that there is no viable alternative;
>
> b) an acceptance assessment of the likely effects of the development on carbon dioxide emissions has been undertaken and submitted; and
>
> c) the economic and social benefits of the development clearly outweigh any potential detrimental effects on the environment, including likely carbon dioxide emissions.

2.18 Where development on such ground is permitted, a peatland management plan may be required. This has been offered in this instance, as detailed in Chapter 7.

2.19 Part F deals with trees and woodland. These would not be materially affected by the proposal.

2.20 Part G covers landscape impacts, which are addressed in Chapter 3 of this report. Its requirements are particularly important to a proposal such as this. In addition to a general expectation that all proposals should be sited and designed to minimise adverse landscape effects, specific requirements are set out for development that would affect the Hoy NSA and the area of wild land on Hoy.

2.21 For the former, development that would affect the NSA will only be permitted where:

> a) the proposal will not have a significant effect on the overall integrity of the area or the qualities for which it has been designated; or
>
> b) any such adverse effects are clearly outweighed by social, environmental or economic benefits of national importance.

2.22 For proposals affecting wild land, development will be only be permitted where it has been demonstrated that any significant effects on the character and qualities of this area can be substantially overcome by siting, design or other mitigation.

2.23 Policy 10 covers green infrastructure (paths, open spaces and green networks). Of relevance to this proposal is Part A of the policy which seeks to protect core paths and other public paths. The effect on users of the path on Wee Fea, who are highly sensitive visual receptors, is discussed in Chapter 3.

2.24 Policy 13 covers flood risk, sustainable drainage and waste water. Its relevance to this proposal is in the handling of surface water, which I discuss in Chapter 7.

2.25 Policy 14 deals with transport, travel and road network infrastructure. In common with other onshore wind energy proposals, the operational phase of the proposed development is unlikely to have any discernible impact on the local road network. However, during its construction and decommissioning, the size of turbine components needing to be transported may have significant implications. The island location of the site means there

are potential implications for marine as well as land transport infrastructure. All of these issues are discussed in Chapter 8.

2.26 Supplementary Guidance: Energy includes a Spatial Strategy Framework for windfarm development. This divides Orkney into three categories of suitability for such development. The application site lies partially within an "Area with Potential for Windfarm Development" but mainly within an "Area of Significant Protection". The latter category applies to areas of Class 1 Peat, which cover much of the site, to a small area at the western side of the site, which is within the Hoy Wild Land Area, and to that part of the eastern side of the site that is within two kilometres of Lyness.

2.27 Supplementary Guidance: Historic Environment and Cultural Heritage provides greater detail for LDP Policy 8. It emphasises the importance of the historic environment in Orkney and makes specific reference to wartime remains in an around Scapa Flow, some of which are close to the proposed turbines. The guidance explains the five forms of significance each heritage asset may have: archaeological; architectural; artistic; commemorative; and historic. It then provides specific guidance on the key considerations that will be taken into account in the assessment of any development proposal that would affect each type of asset. As I set out in Chapter 6 of this report, this proposal has the potential to affect the setting of a number of listed buildings. Of particular significance is the former naval headquarters building on Wee Fea, which is category A listed and therefore of national importance. The supplementary guidance notes that there are 89 buildings at risk within Orkney, of which 4 (including the former naval headquarters) are A listed.

2.28 Supplementary Guidance: Natural Environment, along with LDP Policy 9, seeks to protect Orkney's natural environment from the detrimental effects of development, ensuring the conservation of this rich natural heritage for the benefit of future generations. It explains the roles of Scottish Natural Heritage (now NatureScot) and SEPA, both of whom have made comments on the application proposals. I discuss the points raised by those organisations in Chapters 3, 4 and 7 of this report.

2.29 Guidance is also provided on the habitats regulations appraisal process. It has been confirmed by statutory consultees and accepted by the applicant that significant effects on the Hoy SPA and Scapa Flow proposed SPA cannot be ruled out. As I explained above, this requires Ministers to undertake an "Appropriate Assessment" of those effects in order to determine whether the proposal would adversely affect the integrity of the designated site.

2.30 In 2019, following the council's declaration of a climate emergency, the planning authority published Development Management Guidance: Energy to provide clarity on certain elements of its Supplementary Guidance: Energy (and by implication LDP Policy 7). This development management guidance is not part of the development plan, but as a recent confirmation of the planning authority's own understanding of its development plan, it is a material consideration that must be taken into account.

2.31 The development management guidance confirms that the council will strive to balance both positive and negative factors associated with a proposal prior to making a determination. Where there are significant adverse impacts on known constraints, the guidance states that it will be for the prospective developer to demonstrate that the positive impacts, including net economic impact, the scale of contribution to renewable energy generation targets and the effects on greenhouse gas emissions, outweigh these. This is consistent with the point I made above, that a literal interpretation of part i of Policy 7 D (being essentially a presumption against significant adverse effects) could rule out any

commercial scale wind energy proposal, contrary to the LDP's stated in-principle welcoming of renewable energy.

2.32 The development management guidance notes that Scottish Planning Policy (SPP) only presumes against windfarms on landscape impact grounds where these would be sited in National Scenic Areas (NSAs) and National Parks. It concludes that, except in locations within the Hoy NSA, it may be possible for a developer to make a strong argument regarding how the positive effects of the proposal outweigh the identified negative impacts on the landscape

2.33 This point is emphasised in the development management guidance's confirmation that where a renewable energy proposal would have adverse effects on local-level constraints, such as landscape impacts outwith the National Scenic Area or impacts on sites that are not subject to a national or international level designation, significant weight will be given to any cogent argument that demonstrates that the proposal will have a meaningful positive impact.

2.34 Of relevance to this proposal is the statement in the development management guidance that community and publicly-owned energy developments "naturally have greater socio-economic benefits at the local level than private schemes."

2.35 The development management guidance refers to the Landscape Capacity Assessment for Wind Energy in Orkney as providing a useful starting point when considering how easy it is likely to be to accommodate a wind energy proposal within each of the islands' various landscape character types. However, it recognises that a detailed landscape and visual impact assessment is needed to assess the specific effects of a particular development on a particular site.

2.36 The development management guidance notes that the Third National Planning Framework (NPF 3) acknowledges that strengthening the electricity grid will be essential in unlocking renewable resources, both onshore and offshore and that an interconnector for Orkney (recognised as a National Development) is required in order to fully realise the potential for diverse and widely distributed renewable energy development in Scotland. The development management guidance confirms that any single energy generation project greater than 10 megawatts will be considered to make a meaningful contribution toward the interconnector needs case. I consider the weight that should be given to the interconnector issue in Chapter 9 of this report.

2.37 Other national policy relevant to this proposal can be found in Scottish Planning Policy (SPP). This has recently reverted to its 2014 form following a successful petition for judicial review of the December 2020 amendments. Four planning outcomes are set out, to which all development proposals are expected to contribute. Of particular importance to this proposal are outcomes 2 and 3.

2.38 Outcome 2: A low carbon place aims to reduce Scotland's carbon emissions and enable it to adapt to climate change. Diversification of the energy sector is specifically highlighted in this regard.

2.39 Outcome 3: A natural, resilient place is concerned with protecting the country's natural and cultural assets and facilitating their sustainable use.

2.40 SPP introduced a presumption in favour of development that contributes to sustainable development. In order to achieve that, paragraph 29 sets out 13 principles that should guide decision making. I consider these in drawing together my conclusions, in Chapter 12 of this report.

2.41 There is a section of SPP under the heading "Valuing the Historic Environment" that is relevant to this proposal. It deals not only with the importance of protecting the setting of historic assets from harm, but also with the need to ensure the future of such assets, ideally by enabling them to remain in active use.

2.42 The section of SPP under the heading "Delivering Heat and Electricity" stresses the importance that is placed on transitioning to a low carbon economy. An approach to the preparation of onshore wind spatial frameworks is set out. This has been followed by the planning authority in preparing its spatial framework for Orkney. Paragraph 169 of SPP then sets out a range of considerations that should be taken into account when determining an application for an energy infrastructure proposal. All of these, where relevant to this proposal, have been considered in the EIA report and in this report.

2.43 The "Valuing the Natural Environment" section of SPP sets out policy principles for how change affecting the natural environment should be managed.

2.44 Also of relevance to the consideration of this proposal are the policies made at national and local level in relation to climate change and low-carbon energy generation. These are summarised in Chapter 5 of the EIA report. No party has challenged the relevance of these to an assessment of this proposal. The general thrust of these is to support proposals that would contribute to the generation of renewable, low-carbon energy and help to reduce emissions of climate changing gases. National and local declarations of a climate emergency have taken place since the adoption of the development plan, along with legally-binding targets to achieve net-zero greenhouse gas emissions in Scotland by 2045. All of these developments are important material considerations in the determination of this application.

CHAPTER 3: LANDSCAPE AND VISUAL EFFECTS

3.1 Landscape and visual effects (including cumulative effects) are detailed in Chapter 6 of the EIA report. The applicant's approach to considering these effects was based upon the Guidelines for Landscape and Visual Impact Assessment (GLVIA) Version 3, which is accepted best practice. It considered a 40 kilometre radius study area, although a zone of theoretical visibility (ZTV) plot shows that visibility of the proposed development would mainly be in the south east corner of Hoy and the surrounding islands.

3.2 Physical landscape effects were not predicted to be significant, as the rough moorland found within the site is very common in the locality, has already been modified by tracks and former military uses, and would be easy to re-establish post-construction.

3.3 A number of significant adverse landscape character effects are predicted – within five of the 17 landscape character units (LCUs) and three of the seven regional coastal character areas (RCCAs) studied. All such significant landscape character effects would be within a 6.5 kilometre radius of the site.

3.4 Significant effects were predicted for one of the 11 special landscape qualities (SLQs) of the Hoy and West Mainland National Scenic Area (the NSA) – the High Hills of Hoy SLQ, which is between 5 and 6.5 kilometres from the site.

3.5 There is also an identified area of wild land on Hoy – the Hoy Wild Land Area (WLA). A small part of the site overlaps the WLA boundary. Significant effects are predicted on four of the six wild land qualities in the eastern side of the WLA. In the western side, only three localised areas are predicted to experience significant effects with the remainder being unaffected by the proposal due to there being no visibility of the proposed development.

3.6 Visual effects were assessed at 16 viewpoints (which were also used in the prediction of landscape character effects). From nine of these, significant visual effects are predicted, all within approximately 10 kilometres of the site. Significantly affected receptors would include residents in Lyness and Longhope, ferry users between Cava and Lyness, road users of the B9047 and walkers on Wee Fea.

3.7 Residential visual amenity within a two kilometre radius of the site was assessed in more detail in a residential visual amenity assessment (RVAA). This found a number of properties that would experience significant adverse visual amenity effects, but did not consider any would become undesirable places to live.

3.8 Cumulative effects with all operational, under construction, consented and application-stage wind farms were assessed (including single turbines over 50 metres in height). The EIA report found no significant cumulative effects due to the scarcity of other turbine development – there is one consented windfarm 18 kilometres away and one at application stage which is 23 kilometres distant.

3.9 The key development plan policies are Policy 7 D: Onshore Wind Energy Development and Policy 9: Natural Heritage and Landscape of the Orkney Local Development Plan 2017.

3.10 Policy 7D confirms the range of impacts against which any scale of wind energy proposal will be assessed. The EIA report addresses all of these. It confirms that windfarm applications should take account of the LDP's Spatial Strategy Framework for windfarm development. The majority of the application site lies within an identified "Area of Significant Protection". The policy confirms that within such areas, wind farm development may be supported when a proposal complies with the development criteria in Supplementary Guidance: Energy and where it can be demonstrated that any significant effects on the qualities of these areas can be overcome by siting, design or other mitigation. The policy goes on to confirm that consent may be granted for a maximum period (usually 25 years) after which decommissioning would be required, secured by a financial bond or other arrangement.

3.11 An indication of the capacity of different landscape types in Orkney to accommodate wind energy development is provided in the Landscape Capacity Assessment for Wind Energy in Orkney 2015. This highlights the wilderness characteristics that are found to the north and west of Hoy and are reflected in the NSA designation and identified WLA. These are described as a major constraint on potential wind energy development. In contrast, the south eastern coast of Hoy, opposite Flotta, is noted to have many signs of industrial scale development associated with the past naval base of Scapa Flow and the current developing marine renewables industry. Some potential for wind turbine development in that location is identified. This capacity study is reflected in the LDP's Spatial Strategy Framework for windfarm development.

3.12 Supplementary Guidance: Energy was adopted in 2017. This accompanies, and provides detailed guidance for, LDP Policy 7. Several development criteria are set out, which provide more detailed guidance on issues that the council considers should be taken into account when proposing a wind energy development.

3.13 LDP Policy 9 covers the full range of natural heritage issues including protected sites and species. Of relevance to landscape and visual effects is part G: Landscape. All development proposals are required to be sited and designed to minimise negative effects on the landscape, townscape and seascape characteristics and landscape sensitivities that are identified in the Orkney Landscape Character Assessment and should be sympathetic to locally important natural and/or historic features within the landscape. Specific requirements are set out for development affecting NSAs or WLAs, which I discuss later.

Landscape effects

3.14 No party has challenged the EIA report's finding that there would be no significant physical effects on the landscape. I accept that conclusion and confine my detailed assessment of landscape effects to the proposal's effects on landscape character. I consider the effect on the NSA and WLA separately, having first considered effects on the character of the Hoy Central Hills unit of the Moorland Hills landscape character type (LCT) within which the development would be located, and on nine other LCTs that the EIA report considered.

3.15 The Moorland Hills LCT is the predominant upland landscape character type in Orkney. This landscape has the largest scale of any in Orkney, therefore lending itself to larger forms of development such as turbines. However, as the hills are typically small, the maximum size of turbine that could be installed without appearing disproportionately large is more limited than in many upland landscapes on the Scottish Mainland. It is also necessary to recognise that this application site lies at a point of transition between the uplands and

the coastal edge, on a lower hillside. This makes it more sensitive to issues of scale comparison than if it had been at the heart of the upland landscape.

3.16 The Landscape Capacity Assessment for Wind Energy in Orkney, 2015 concludes that within the Hoy Central Hills unit of the 'Moorland Hills' LCT there is underlying capacity for 50 to 80 metre turbines on the eastern fringes only, close to Lyness and no further north than Pegal Head. No capacity is identified for 149.9 metre turbines as are proposed here. Indeed no capacity is found for any turbine greater than 80 metres in height.

3.17 As a capacity study is unable to take account of the specific effects of an individual development proposal, this finding does not rule out the possibility of very large turbines being accommodated within this LCU. However, it is indicative of the sensitivity of the landscape to this form and scale of development and the consequent challenges that that any designer of a scheme within that landscape is likely to face.

3.18 The EIA report finds that there would be no visibility of the proposed development (and therefore no landscape character effect) from much of the western half of the Hoy Central Hills LCU. From the eastern half of this unit, it predicts that visibility of the proposal would be variable. Out to about three kilometres from the site there would be almost uninterrupted views of all six machines. Between three and 4.5 kilometres, the EIA report's ZTV shows more patchy visibility, reducing again between 4.5 and 6.5 kilometres from the site. Beyond a 6.5 kilometre radius, no significant landscape character effects are predicted.

3.19 I agree with that assessment except in respect of effects beyond a 6.5 kilometre radius. When seen from viewpoint 10, which is in the adjacent Ward Hill LCU looking across the Hoy Central Hills LCU, the greater elevation enables visibility of all six proposed turbines. Despite being almost 10 kilometres away, the turbines would be clearly visible and I believe a viewer would not be able to appreciate their significant scale due to the absence of scale indicators in the view. As a consequence, the separation distance from the turbines and the scale of the landscape between the viewer and the machines, is likely to be perceived as being smaller and less impressive. This would add to the adverse effect on the character of the Hoy Central Hills LCU.

3.20 Overall, I agree with the EIA report that this LCU would experience significant adverse landscape character effects, but I believe the geographical extent of such effects would be greater than the EIA report has predicted due to the diminution of the perceived scale of the landscape when seen from the adjacent LCU.

3.21 Away from the LCU in which the development is proposed, landscape character effects could arise due to visibility of the proposed development affecting the way in which the pattern of elements that characterise the landscape is perceived.

3.22 Of the nine other LCTs (comprising a total of 16 LCUs) the EIA report predicts significant landscape character effects on only four LCUs:

- parts of the Cava and Rysa Little unit of the Holms LCT;
- the Lyness unit of the Inclined Coastal pasture LCT;
- the Fara unit of the Whaleback Islands LCT; and
- the South Walls unit of the Whaleback Islands LCT.

3.23 I agree with the EIA report that, beyond the Hoy Central Hills LCU, significant landscape character effects are likely to be confined to these four LCUs. Therefore, I have focussed on these in my assessment below.

3.24 The islands of Cava and Rysa Little are small and low-lying (maximum elevations being 20 metres and 38 metres above Ordnance datum respectively). Due to their proximity to the much larger island of Hoy, their landscape character is influenced by the character of the northern coast of that island. Both islands are uninhabited and have simple land cover. Unlike much of the land around and within Scapa Flow, these islands contain no visible remains of wartime military infrastructure. Not all locations on these islands would experience views of the turbines, but where they would be seen, there is likely to be a significant adverse effect on the character of the islands due to the significantly greater sense of intrusion of large-scale human development that would be a consequence of the proposal

3.25 The Lyness unit of the Inclined Coastal pasture LCT is a generally low-lying, gently sloping landscape of farms, crofts and small groups of houses. Wartime remains (often derelict) are also important characteristics. It is likely that the proposed development would visible across the entire LCU due to the openness of the landscape, the sparse tree cover and higher elevation of the site.

3.26 The nearest turbine would be only approximately 800 metres from the edge of the LCU. The presence of human influences (including ships and rigs at sea) would reduce the sense of intrusion from the development, but the sheer scale of the proposed machines – far in excess of the existing Ore Brae turbine, would have a dominating effect upon the character of the coastal pasture landscape. This would be most noticeable with the nearest machines – Turbines 1, 2 and 6. The turbines proposed further into the adjacent Moorland Hills landscape – Turbines 3, 4 and 5 would appear more distant and more a feature of the upland landscape than an intrusion into the coastal pasture below. However, the overall effect would be significantly detrimental to the landscape character of this LCU.

3.27 The Fara and South Walls units of the Whaleback Islands LCT are small, dome shaped islands with little vegetation. Fara sits within Scapa Flow, close to Hoy. All but the eastern coast is predicted by the appellant's ZTV to have visibility of the proposed development, with the closest turbine approximately 3.2 kilometres away. South Walls is attached to Hoy by a narrow strip of land. Unlike Fara it is inhabited and the presence of human development there would reduce its susceptibility to effects from the proposed development. The nearest turbine would be approximately 3.3 kilometres away and the development would be visible from almost all of this LCU.

3.28 I agree with the EIA report that the landscape character of both units of this LCT would be significantly affected by the proposed turbines, although the degree of harm is likely to be less than for the Lyness unit of the Inclined Coastal pasture LCT due to the greater separation distances. intervening stretches of water and the existing visibility of other human influences including the oil infrastructure on Flotta, which already has a harmful influence on landscape character.

3.29 The three regional coastal character areas (RCCAs) that are predicted (at least in places) to experience significant landscape character effects are:

- RCCA 31: Cava, Rysa Little and Fara
- RCCA 32: South East Hoy

- RCCA 34: North Bay, Longhope and Switha

3.30 The effects on these coastlines are similar to those in the LCUs where the EIA report predicts significant landscape character effects. The consistent theme is that the proposed turbines would change the recessive backdrop that is provided by existing Moorland Hills landscape to one in which large-scale moving vertical structures are a visually discordant and eye-catching feature.

3.31 Overall, I conclude that there would be significant adverse landscape character effects, in places out to approximately 10 kilometres, but primarily within a radius of approximately 4.5 kilometres.

The Hoy and West Mainland National Scenic Area

3.32 None of the proposed development would be within the NSA. At its closest point, the NSA boundary is approximately 5.2 kilometres from the application site. However, the EIA report's ZTV shows that views of the proposed turbines from locations within the NSA would be available and that the proposal could also affect the setting of the NSA when viewed from elsewhere.

3.33 The EIA report predicts visibility of the proposed development from the Hoy part of the NSA being limited to three locations; one small patch in the Rugged Hills LCT, centred on Ward Hill in the north; one large patch over the Moorland Hills LCT, centred around Kingie Lang (280 m) and Vow Randie in the south-east corner; and one very small patch in the Moorland Hills LCT, centred around Whitefowl Hill in the south-west corner.

3.34 The EIA report assessed the likely effects of the proposal on the special landscape qualities (SLQs) of the NSA in accordance with guidance set out in the SNH (now NatureScot) draft "Guidance for Assessing the Effects on Special Landscape Qualities" (2018). It concluded that only one of the 11 SLQs would be significantly affected across a localised area in the Moorland Hills LCT on the southern boundary of the designated area, between 5 kilometres and 6.5 kilometres from the site. Three other SLQs are predicted to be affected by the proposal, but not significantly, while the remaining seven SLQs would not be affected at all.

3.35 SPP includes NSAs within Group 1 of its windfarm spatial framework, being areas where windfarms will not be acceptable. This is also reflected in the Energy SG. None of the proposed turbines would be within the designated NSA, but the potential for indirect effects on the NSA's special landscape qualities is clear. SPP states that development that would affect an NSA should only be permitted where the objectives of designation and the overall integrity of the area would not be compromised or where any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental or economic benefits of national importance.

3.36 NatureScot finds the proposal would have significant adverse effects on four of the NSA's 11 SLQs, although it does not find that this would compromise the objectives of the designation or its overall integrity. It predicts these effects due to views of the development from within the NSA and also due to views of the NSA from elsewhere in which the proposed development would also be visible.

3.37 NatureScot notes that there would be visibility of the proposed development from areas within the NSA including Ward Hill (Viewpoint 10) and the area between Knap of

Trowieglen (Viewpoint 1) and Vow Randie located within the southern portion of the designation, between 5.5 kilometres and 10 kilometres to the north of the proposal. It also predicts a broad area of visibility within the Loch of Stenness area of Mainland Orkney up to approximately 20 kilometres to the north.

3.38 NatureScot also predicts the proposal would be visible in views towards the NSA from a broad area surrounding Scapa Flow including Mainland Orkney and the islands of Burray, South Ronaldsay and Flotta, and from mainland Scotland.

3.39 The first SLQ NatureScot believes would be significantly affected is SLQ 2 "An archaeological landscape of World Heritage Status". This relates to the Neolithic monuments of the Ring of Brodgar, Skara Brae, the Stones of Stenness and the grass-covered tomb of Maes Howe. NatureScot's concern is that the application site forms part of the backdrop to these internationally important landmarks. The Ring of Brodgar in particular is noted to be a World Heritage Site located within the NSA, which is a popular destination for many visitors to Orkney. The turbines, including a number of hubs, would be visible from within the centre of the stone circle of the Ring of Brodgar, and from publicly accessible locations within its environs, including the Salt Knowe Mound and another mound located immediately to the south-west, which are also popular viewpoints.

3.40 NatureScot notes that, although the Cultural Heritage Viewpoint 7 does not show visibility, the existing temporary meteorological mast (approximately 50 metres tall and located on the proposed development site) is visible on the skyline beyond the buildings at Clouston, indicating that the proposed turbines would also be visible. While the view to the south and wider views, contain man-made, modern elements within the middle distance, the turbines would appear as larger elements than the existing turbines which are currently visible within the wider view.

3.41 The EIA report accepts the potential for indirect effects on the setting of the archaeological landscape, especially in North Hoy. However, it notes the separation distance of 18 kilometres from the WHS (and 16 kilometres from its buffer zone). Its ZTV shows there would be no visibility from Stones of Stenness, Maes Howe and Skara Brae so the only potential effect would be upon the Ring of Brodgar.

3.42 The EIA report predicts visibility of all six proposed turbines from the Ring of Brodgar at a distance of approximately 19 kilometres. At that range, it believes the machines would be visually recessive and (due to the sea not being visible) would appear distant features of the West Mainland landscape rather than as features of the hills of Hoy, which are an identified backdrop to the monument. No significant effects on this SLQ are predicted.

3.43 I note that, although it has formally objected to this proposal for other reasons (which I discuss in Chapter 6 of this report) Historic Environment Scotland (HES) has raised no concern over effects on the setting of the Ring of Brodgar. I appreciate that NatureScot and HES's remit is different in this regard, but I regard HES's apparent lack of concern as a material consideration in the applicant's favour.

3.44 Taking all factors into consideration, I find that, at the range from which the turbines would be seen from the Ring of Brodgar (around 19 kilometres) and bearing in mind the presence of much closer modern artefacts of which any visitor to the monument would be well aware, there is no likelihood that what is now proposed would significantly affect this SLQ.

3.45 SLQ 3 “The spectacular coastal scenery” refers to the towering red cliffs along Hoy’s Atlantic coastline, enhanced by the presence of the Old Man of Hoy, the highest sea stack in the British Isles. NatureScot predicts the turbines would be visible within the context of the sea cliffs of the NSA from areas to the south outwith the NSA where they would be seen within a 90 degree view as a series of vertical elements, competing with the cliffs for visual dominance in terms of scale, form and colour. The movement of the blades would highlight their visibility and, in afternoon and evening light when the red colour of the cliffs is most accentuated, they would appear prominently as white elements. NatureScot believes these views would be experienced in particular by ferry users and from the north coast of mainland Scotland including the popular Dunnet Head (Viewpoint 8). From within the NSA it predicts there would be visibility to the turbines, including two hubs and four tips, from the western part of Ward Hill. The Old Man of Hoy forms part of this same view, albeit within a broader panorama.

3.46 The EIA report notes that the ZTV finds no potential visibility of the proposed turbines from the coastal edges of Hoy that lie within the NSA. It accepts that from the coastal edge of West Mainland, the proposal would be visible at a distance of between nine and 17 kilometres, but in such views, the proposed turbines would be seen behind intervening landform and the locations where such views would be available, while still within the NSA, do not match the spectacular scenery of the west coast of Hoy.

3.47 I experienced evening views of Hoy’s western coastline when travelling from Scrabster on the ferry. I agree that this provides a spectacular experience of the NSA. However, for one to be far enough south to experience simultaneous views of the proposed turbines and the dramatic coastline (either on the ferry or, in clear weather, from certain locations on mainland Scotland), the visual impact of the western cliffs of Hoy would be greatly reduced, and the separation between the proposed turbines and the cliffs sufficient for there to be no significant visual disharmony . Once one has reached the point where the scale and visual impact of the cliffs can be fully appreciated, I predict that the turbines would no longer be visible. Overall, I am satisfied that the proposal would not significantly affect this SLQ.

3.48 From the summit of Ward Hill, the turbines and the western coastal landscape would be seen in opposite directions, as distinct and separate features of the view. I do not believe the former would materially diminish the special qualities of the latter.

3.49 SLQ 7 refers to “A landscape of contrasting curves and lines” NatureScot notes that the combination of curves and lines is a defining feature of this landscape. The pattern of the landform is smooth, with gentle curves, but the land itself often ends spectacularly in vertical cliffs and a horizontal horizon of sea. NatureScot believes the turbines’ clear vertical emphasis would form a strong contrast to the smooth hill profiles seen within its close context. This would be apparent in views from the NSA including Ward Hill (Viewpoint 10), Knap of Trowieglen (Viewpoint 1), Whitefowl Hill (Viewpoint 20) and Vow Randie, and within wider views towards the NSA from surrounding areas of land and sea.

3.50 The EIA report acknowledges the potential that, in views from within the southern part of the high hills of Hoy looking out, this special quality could be affected by the proposed vertical structures contrasting with the established and important combination of curved hills, vertical cliffs and horizontal sea. However, as views in this direction demonstrate this SLQ much less clearly than elsewhere within the NSA and because what is proposed would affect a relatively small proportion of the view, the EIA report predicts no significant effect on this SLQ.

3.51 I agree with the EIA report that views of the proposed turbines at a distance of over five kilometres and in a limited sector of the available view, would not significantly affect a visitor's ability to appreciate this SLQ of the NSA.

3.52 SLQ 9 "The high hills of Hoy" is the one special landscape quality where the EIA report concurs with NatureScot's finding of a significant adverse effect. This special quality is concerned with the spectacular backdrop that the high, rounded hills of Hoy provide to much of West Mainland Orkney. The EIA report's conclusion is that effects on views towards the NSA would lead to non-significant effects on this SLQ, but that, from restricted areas within the NSA, views looking towards the site, there could be a significant effect due to a visitor's experience of the glaciated landforms contrasting with the modern and dynamic appearance of the proposed turbines.

3.53 NatureScot notes that the proposed turbines would not be visible in close range views above or immediately adjacent to the high hills. However, they would be visible in association with, and in contrast to, the elevated and smooth-profiled hills within more distant views from Scapa Flow and Mainland Orkney. This includes views from the A961 OS Viewpoint on South Ronaldsay (Viewpoint 4), Orphir (Viewpoint 6), Duncansby Head (Viewpoint 9) and A961 Burray (Viewpoint 15), and the environs of Loch of Stenness and Ring of Brodgar (Cultural Heritage Viewpoints CH 7 and CH 8). NatureScot believes the presence of the turbines would diminish the perceived scale of the hills and would be prominent within the backdrop of views.

3.54 In views towards the NSA from elsewhere, the EIA report notes that, in many views from West Mainland, the proposed turbines, would be seen at distances of between 16 and 23 kilometres away, as small elements in the background rather than middle distance features like the high hills of Hoy. Where closer-rage views were available, views of the High Hills of Hoy would not be in the same direction, but further to the west, which would reduce the extent to which the turbines could distract from the high hills backdrop.

3.55 I agree that the High Hills of Hoy provide a very important backdrop to many views. However, when viewed from mainland Orkney I believe the proposed turbines would be far enough to the eastern side of Hoy (where the hills are lower and less distinctive) that they would not be likely to detract from this SLQ to any significant degree. From elevated locations within the NSA looking out to the east there would be localised significant adverse effects on this SLQ, although the geographical extent of the NSA that would be so affected would be limited.

3.56 Overall, I find that there would be some significant adverse indirect effects on one of the NSA's special landscape qualities but that this would not the compromise the objectives of designation or the overall integrity of the area. It would not, therefore, conflict with Policy 9 G iii.

<u>The Hoy Wild Land Area</u>

3.57 The EIA report assessed the effect of the proposal on the Hoy Wild Land Area (the WLA) using draft technical guidance published by Scottish Natural Heritage (now NatureScot) in 2017, which in turn adopts the approach to landscape and visual assessment that is set out in the GLVIA third edition.

3.58 The WLA is one of 42 areas mapped by Scottish Natural Heritage (now NatureScot). It covers the hills in the centre of the island, overlapping with some of the NSA but

excluding the popular visitor attractions of Ward Hill, The Old Man of Hoy and Trowie Glen. Within the WLA there are no roads or even made paths, making access to its interior challenging. Six key attributes and qualities (hereafter referred to as WLQs) have been identified for this WLA.

3.59 One of the proposed turbines would be within the south eastern corner of the WLA and the remainder would be within approximately one kilometre of its edge. The EIA report considered effects on the WLA's physical attributes from Turbine 4, which is within it, and on the perceptual responses generated by the WLQs arising from those physical attributes, for all of the proposed turbines.

3.60 The John Muir Trust is concerned that granting planning permission for a wind energy development that encroaches into a WLA would set an undesirable precedent. While I believe such approvals are very rare, each proposal must be considered on its merits so I would not advise Ministers to give any significant weight to the issue of precedent.

3.61 The applicant points out that the value that is placed upon WLAs in policy terms is lower than is afforded to NSAs and national parks. It notes that SPP places WLAs within Group 2 of its spatial framework, where wind turbine development may be possible, whereas NSAs and national parks are within Group 1, where it is effectively ruled out. It also refers to SNH's publication 'Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations, Guidance' (June 2015), which states *"Within local landscape designations and Wild Land Areas, the degree of landscape protection will be less than for National Scenic Areas. In these areas, an appropriate objective may be to accommodate wind farms, rather than seek landscape protection."*

3.62 The EIA report notes that the small size of this WLA means that external influences do penetrate into its interior, especially in the south east, where the strength of the WLA's physical attributes is weaker due to the presence of a mast, a single turbine (Ore Brae), settlement, roads, agricultural land uses and a ferry terminal along with development on nearby Flotta. Its study of effects on the WLA area divided it into two sub-areas – east and west. The boundary between these is the ridge line between Knap of Trowieglen in the north to Bakingstone Hill in the south. For the east sub-area, susceptibility to change was assessed as being between medium and medium / high, whereas in the west sub-area it was assessed as medium / high to high.

3.63 The Energy SG notes that wild land is valued by many for the opportunity it provides for engagement with nature as well as experiencing 'respite' from the pressures and complexities of the modern world.

3.64 SPP confirms that WLAs are very sensitive to any form of intrusive human activity and have little or no capacity to accept new development. If development is to take place, any significant effects on the qualities of the WLA must be substantially overcome by siting, design or other mitigation.

3.65 NatureScot, while not objecting to the proposal on grounds of landscape or visual grounds (as it does not consider that the effects on this WLA are of national interest), expresses some concern over effects on the WLA. It notes that the proposal would be visible from about 40% of the WLA at distances up to approximately seven kilometres. It accepts that visibility would be mainly restricted to parts of turbine blades, and that these would be seen in association with other development outwith the WLA on the south east

coast of Hoy and within and around Scapa Flow (albeit the turbines would be closer in views). Nevertheless, it predicts some significant harm to some of the WLA's six WLQs.

3.66 The first WLQ refers to "*A relatively small area of wild land that sits within a wider archipelago, with a prevailing strong influence of the sea and exposure*". NatureScot believes the relatively small size of the WLA renders it more vulnerable to the effects of the proposal because, despite the hilly terrain and lack of footpaths, its small size allows large parts of it to be experienced within a day. In this context the turbines would be seen sequentially including from the central ridgeline that extends from Knap of Trowieglen (399 m) in the north, through Withi Gill (359 m) in the centre to Bakingstone Hill (152 m) in the south.

3.67 The EIA report predicts significant effects on this WLQ in those parts of the east sub-area where visibility would occur and not significant where there would be limited or no visibility.

3.68 I agree that the small size of the WLA makes it potentially more sensitive to change. Towards its eastern edge (where I accept that levels of relative wildness are lower) I agree with the parties that there would be significant effects on this WLQ due to the distracting effect of more prominent man-made development reducing the visual influence of the sea. However, away from that part of the WLA, I am satisfied that this particular WLQ would not be significantly affected by the proposal, as any visitor would still experience vast views across the sea towards the other islands and the sense of scale and exposure that this gives, with the intrusive appearance of the proposed turbines at that point greatly reduced.

3.69 The second WLQ refers to "*The east and west sides of the area contrast strongly in landform, access and remoteness, with a hidden interior in-between that has a strong sense of remoteness and sanctuary*". The sixth WLQ states "*Few visitors and artefacts within the interior, despite the proximity of settlements and roads outside the area*."

3.70 NatureScot notes that the ZTVs indicate that the proposed turbines would be visible from the majority of the eastern part of the WLA, although it accepts that the single wind turbine and other built structures associated with Flotta and settlement on the coast would tend to limit the level of effects on a 'sense of remoteness and sanctuary' from these areas.

3.71 The EIA report predicts significant effects in those parts of the east sub-area where visibility would occur and not significant elsewhere.

3.72 I agree that existing views of built development already have a detracting influence on the WLA's sense of remoteness and sanctuary from locations close to its eastern edge where the eastern coast of Hoy and the islands beyond can be seen. This is reflected in the second WLQ's reference to the strong contrast in remoteness between east and west sides of the WLA. However, the existing influence of such development is reduced by the sense that human artefacts are distant and contained within the lower ground and on other islands and therefore not a part of the WLA. What is now proposed, by reason of its elevated location, much closer proximity and significantly greater scale, would appear as an intrusion into the eastern part of the WLA, which would erode its perceived remoteness. In my view, this would have a significant adverse effect on the second WLQ for those parts of the WLA where the turbines were visible.

3.73 NatureScot notes that there are some locations on or close to the central ridgeline where, despite visibility to other development, the second WLQ remains strong. There are

locations below Withi Gill (3.8 kilometres to the north-west) and above Sky Fea (2.5 kilometres to the north-west) where NatureScot believes the intervening sharp change in elevation contributes to a sense of separation from the more developed landscape. From these locations turbines would be visible from below hub height, and would be perceived to be closely associated with the upland landscape, detracting from the sense of remoteness and sanctuary experienced within the 'interior'. Again, I find there to be a significant adverse effect on the second WLQ in these locations, as the greater separation from the proposal is cancelled out by the higher level of sensitivity of this more central part of the WLA and because from these locations, existing development near the coast would be more successfully screened by the landform.

3.74 NatureScot predicts that the proposal would also be visible from a number of south-facing slopes within parts of the western interior where other built development in the wider landscape is screened from view and WLQs 2 and 6 are strong. From Red Hill of Sneuk, Genie Fea and the south-facing slopes of Withi Gill, NatureScot predicts there would be visibility of up to six hubs at distances of 3.5 to 6 kilometres, and from Whitefowl Hill there would be visibility of three blade tips at 6.7 kilometres distant. As these ridgelines continue westwards towards the coast, visibility would be fragmented and the extent of turbines visible would diminish. This is a particularly sensitive part of the WLA where the second and sixth WLQs are clearly apparent. I conclude that the sense of intrusion into the perceived remoteness of this part of the WLA is likely to detract significantly from the second and sixth WLQs at these locations. This is likely to be an intermittent effect, but due to the small size of the WLA, one that is likely to alter a visitor's overall experience of these WLQs to a significant degree.

3.75 The third WLQ refers to *"Dramatic, towering sea cliffs in the west that lead to perceived awe and naturalness".* NatureScot states that observation in the field and examination of wirelines for Genie Fea (Viewpoint 19) and Whitefowl Hill (Viewpoint 20) demonstrates that the turbines would be visible, with the dramatic sea cliffs within panoramas of up to 120 degrees from the ridges that extend west from Red Hill of Sneuk, Genie-Fea and Whitefowl Hill, though at a distance and with largely blade tips visible. While that may be so, because the turbines and cliffs would be seen in separate directions and well separated, I do not predict that a visitor's appreciation of the scale and dramatic form of the sandstone cliffs would be significantly affected. Therefore, I agree with the EIA report, which scoped-out effects on this WLQ from detailed assessment.

3.76 The fourth WLQ refers to "*Subtle, gently-sloped hill slopes at a broad scale, containing a complex distribution of bog, pools, peat hags and burns at a local level, contributing to the sense of naturalness".* ' NatureScot notes this WLQ is present in most parts of the WLA which have theoretical visibility of the proposal. 'The simplicity of the composition appears awe-inspiring, with smooth 'clean' landform horizons appearing in stark contrast to the vertical west, north and eastern edges'. It believes the proposed large, vertical structures would alter the sense of simplicity and sense of naturalness, to an increasing degree with greater proximity.

3.77 The EIA report accepts that the proposed development would introduce large scale vertical structures, which would interrupt the smooth, clean landform horizons leading to a significant effect on this WLQ towards the southern edge of the low moorland hills, diminishing further to the north.

3.78 I agree that, within the south east quadrant of the WLA, the naturalness that is key to this WLQ would be significantly eroded by relatively close range visibility of very large non-

natural features. However, further to the north and west, the elements that contribute to that quality would remain intact and this WLQ would not be significantly eroded by partial and more distant views of the proposed machines.

3.79 Overall, my conclusion is that there would be significant adverse effects on four of the six key attributes and qualities of the Hoy WLA. Not all parts of the WLA would experience such effects to the same degree and the areas where qualities such as remoteness, tranquillity and the absence of human artefacts are most strongly experienced are likely to experience fewer effects from the proposal than areas towards the east of the WLA, where such qualities are already significantly less clearly expressed. Nevertheless, because there would be significant effects on the qualities of the WLA that could not be substantially overcome by siting, design or other mitigation, I find the proposal to be contrary to LDP Policy 9G and to the expectations of national policy, as expressed in SPP.

Visual effects

3.80 The EIA report considered visual effects at 16 representative viewpoints. It also looked specifically at how principal visual receptors would be affected. These include residential properties, and receptors travelling through the landscape. For seven of the viewpoint locations, the EIA report found no significant visual effect. I agree with that assessment and have focussed on the nine locations where a significant effect was predicted.

3.81 Viewpoint 1: Knap of Trowieglen is from a 399 metre hill summit within the WLA and NSA. It is representative of walkers visiting this prominent summit in order to experience its panoramic views. The EIA report assigns a high value to this view, but only a medium to high susceptibility due to the fact that the main attraction for visitors to this location would be views northwards towards the rugged hills LCT and eastwards across Scapa Flow rather than towards the south east where the proposed turbines would be seen in front of existing built development around the eastern coast of Hoy and on Flotta. This gives an overall sensitivity to visual effects at this location of medium to high, which I consider to be reasonable. The hubs of two turbines and the very tips of two more would be visible at a minimum distance of just over six kilometres. The development would be seen behind and below the upland plateau but would still create some sense of large-scale moving development encroaching closer towards the upland landscape. I agree with the EIA report's assessment of a medium magnitude of change and a significant adverse visual effect.

3.82 Viewpoint 2: West Hill, Flotta is from the island of Flotta immediately adjacent to an existing 100 metre high wind turbine. It is approximately 6.2 kilometres away from the nearest proposed turbine. All six proposed turbines would be visible, including most of the towers. The tops of the machines would rise above the undulating horizon, behind the settlement of Lyness. This location has no formal landscape designation and any visitor's experience would be adversely affected by the Flotta turbine and nearby oil terminal. Nevertheless, it is identified on the OS maps as a viewpoint location and it is views towards Hoy (and the proposed turbines) that are the most attractive at present. Therefore, I agree with the EIA report's overall rating of medium to high receptor sensitivity. The EIA report predicts a magnitude of change of between medium and high. I believe the prominence of the proposed development and the ability to appreciate the significant scale of the turbines that is afforded by views of their towers and by comparison with the existing Ore Brae turbine and smaller scale development in Lyness would create a high magnitude of change and a significant adverse effect on this view. I believe the turbines would appear

inappropriately large in comparison with the scale of the hillside on which they are proposed.

3.83 Viewpoint 3: Longhope, South Walls is representative of residents of the island and road users of the B9047. All six turbines would appear very prominently at a minimum distance of 3.4 kilometres. The scale of the machines would appear very large in comparison with the modest hillside upon which they would stand and with the domestic-scale buildings that can be seen across the bay. I believe the EIA report's assignment of medium to high receptor sensitivity is reasonable, although residents, who would experience this view for long periods, I would place at the higher end of that range. I believe the predicted medium to high magnitude of change underestimates the impact the proposed turbines would have because although the group would appear attractively arranged from this direction and would occupy only a limited proportion of a wide horizon, the dominant scale in relation to the receiving hills could not fail to have a dominant presence. Overall, I agree with the EIA report that there would be a significant adverse visual effect from this viewpoint.

3.84 Viewpoint 10: Ward Hill is from the summit of the highest hill in the Orkney islands. It lies within the Rugged Hills LCT to the north west of Hoy. This is a location visited by walkers for the panoramic views it offers across the archipelago. As such I agree with the high sensitivity rating assigned by the EIA report. The nearest turbine would be 9.66 kilometres away. Parts of all six machines would be visible (in fine weather) beyond an undulating upland landscape. The EIA report predicts a medium magnitude of change due to the separation distance reducing the apparent scale of the machines, their relatively tight grouping across a small sector of the wide panorama and the presence of oil infrastructure on Flotta also being visible in the same view. I agree with that assessment and with the finding of a significant adverse visual effect due to the high receptor sensitivity.

3.85 Viewpoint 11: Lyness naval cemetery is also referred to in Chapter 6 of this report, where I discuss cultural heritage effects. I agree with the EIA report that, while the focus of a visitor's attention would be cemetery itself, its wider setting is an important contributor to their experience. The medium to high receptor sensitivity assessment seems reasonable. All six turbines would be seen, most very prominently on the hillside behind the cemetery at a minimum distance of 1.2 kilometres. I concur with the high magnitude of change and significant adverse visual effect reported in the EIA report as the impression for visitors to the cemetery would be a highly distracting intrusion into the otherwise largely recessive backdrop in which, at present, the only significant features are wartime remains that do not appear inappropriate in the context of the naval cemetery.

3.86 Viewpoint 12: North Walls School is situated on the B9047. It represents school users, local residents and users of that road. The EIA report assigns an overall sensitivity rating of medium to high because road users' experience would be short-lived and the principal outlook for buildings tends not to be in the direction of the proposed development. The view towards the site is of low hills with the existing Ore Brae turbine seen in the middle distance approximately one kilometre away. All six proposed turbines would be seen on the skyline at a range of approximately 2.2 kilometres. Unlike the Ore Brae turbine, which is in scale with its surroundings, the proposed machines would be highly dominant features that would significantly detract (as the EIA report accepts) from the visual amenity of receptors at this location.

3.87 Viewpoint 13: Bakingstone Hill is at the summit of a low hill (elevation 152 metres) approximately three kilometres to the south west of Wee Fea. It lies within the WLA and

has views across wild land. Also visible from this location are the Ore Brae and Flotta turbines, the communications mast on Binga Fea and the pylon-lined access track to the water treatment works at Heldale Water, all of which reduce the sense of naturalness and isolation. The nearest turbine would be 2.65 kilometres away. Virtually the full extent of all six would be visible with some overlapping of turbines 2 and 4. Despite the existing visual detractors, I concur with the EIA report's finding of a significant adverse visual effect.

3.88 Viewpoint 14: Houton to Lyness ferry shows how the development would appear to users of the vehicle ferry from Mainland Orkney from a point approximately two kilometres north of Lyness ferry terminal. Four turbines would be visible to hub height with the blades of the other two also visible. The closest would be approximately 3.2 kilometres away. Other man-made development is clearly visible, but none is remotely comparable in scale to what is now proposed , which would dominate the low hillside on which it would be seen. This would represent a significant adverse effect, which I agree with the EIA report would extend as far north on the ferry route as the island of Cava, approximately three kilometres further north.

3.89 Viewpoint 16: Withi Gill is from a hilltop within the heart of the WLA. All six turbines would be visible to hub height from a minimum distance of 4.2 kilometres. I believe the EIA report's medium to high sensitivity assessment underestimates receptor sensitivity at this location. While there may be no regional or national landscape designation applying to this location, its position at the heart of the WLA ought, in my view, to raise both the value of the view and the susceptibility of the walkers who would experience it, who would be focussed upon their surroundings and appreciative of the absence of nearby human influences. I also believe the prediction of a medium to high magnitude of impact may underplay the actual impact, although I appreciate that the turbines would be seen in only a small sector of the panoramic view from this location. Overall, I agree with the EIA report that the effect on receptors would be significantly adverse.

3.90 The EIA report's consideration of effects on principal visual receptors looked at how the development would affect road and core path users, ferry passengers and local residents.

3.91 For the B9047 road along Hoy's north eastern and eastern coast, visibility of the proposed development would be highly variable. However, the EIA report predicts significant effects between approximately six kilometres north and six kilometres south of the site. This represents a large proportion of the most significant road in Orkney.

3.92 As set out above, in my discussion of viewpoint 14, passengers on the Houton to Lyness Ferry would experience significant effects for the section of the route between Fara and Lyness, which is perhaps a quarter of the journey's duration.

3.93 Effects on the settlements of Lyness and Longhope were examined in a residential visual amenity assessment. SNH's 'Siting and Designing Windfarms in the Landscape' (2017) states

> "*A wind farm's impacts on local residents requires particular attention as, unlike visitors, they will experience a wind farm from different locations, at different times of the day, usually for longer periods of time, and in different seasons*."

3.94 A number of objections to the proposal contend that the applicant's assessment of residential visual amenity effects was flawed. This is due to omitting a number of residential properties from any analysis, inaccurately identifying the location of windows in properties that were assessed, relying upon the screening effect of trees, which cannot be assumed to remain in place in the longer term, and not considering amenity effects on business premises that rely upon an attractive outlook including Emily's Café in Lyness, which has all of its windows facing Wee Fea.

3.95 The applicant regards Viewpoint 11: Lyness naval cemetery as showing a worst-case impression of effects on Lyness. I agree that the slightly elevated nature of that site when compared to most buildings in the settlement means it is likely to afford the clearest view. However, the level of effect is unlikely to be significantly greater than for the residential and business properties in Lyness, some of which are closer to the site. I also believe the orientation of main windows in properties (which the EIA report points out is often towards the sea rather than inland towards the site) would not significantly reduce the significance of visual effects due to the dominant effect the proposed turbines would have as residents and visitors entered and left the properties in Lyness each day. I agree with the EIA report that the proposal would have a significant adverse effect on views from Lyness.

3.96 From Longhope, the EIA report also predicts significant adverse effects. Despite being further away, properties tend to be oriented in the direction of the application site. I agree that for residents and those driving through the settlement, views of all six turbines at a distance of just over three kilometres would have a significant adverse effect on visual amenity.

3.97 I do not believe that the identified residential visual amenity effects would be so harmful that any property would become an undesirable place to live. However, the effect on a number of residential receptors and also on travellers through the landscape on the eastern side of the island, would be sufficiently harmful to amount to a significant adverse impact on communities and amenity.

Landscape and visual conclusions

3.98 I agree with the EIA report that if wind turbine development is to be situated on Hoy, it should be located to the eastern side of the island due to the existing influence of past and present built development (including the nearby Ore Brae turbine) reducing the susceptibility of this location to further wind turbine development and because such a location should reduce effects on the NSA and WLA. The avoidance of ecologically sensitive locations, particularly from an ornithological perspective is a further factor in favour of an eastern location. Such effects are discussed in Chapter 4.

3.99 However, this location also has a number of factors that reduce its suitability for such development.

3.100 A key concern is the smaller scale of the landscape and of the hillside upon which development would be sited. As set out above, I believe the proposed 149.9 metre turbines are too large to be accommodated comfortably within these smaller hills.

3.101 A further disbenefit of siting wind turbine development at the eastern side of the island is that this is where the majority of its population is concentrated. As set out above,

this would cause significant adverse effects on the visual amenity of residents in Lyness and Longhope and travellers on a significant stretch of the main B9047 road.

3.102 The final factor that potentially increases the sensitivity of a location on the eastern side of Hoy is the presence of cultural heritage assets. I discuss this in chapter 6.

3.103 From a landscape and visual impact perspective, I consider the proposal to be contrary to LDP Policy 7 D (i) (a) and (b). As stated earlier in this report, significant adverse landscape and visual effects are to be expected within close proximity of a commercial wind energy site and what needs to be assessed is not whether significant effects would occur but how they should affect the overall assessment of the proposal (often referred to as the planning balance).

3.104 The radius within which such significant effects would be experienced is a factor that should feed into an assessment of the planning balance. In the case of visual effects involving existing residential receptors, I believe great care needs to be taken in doing this, due to the particular sensitivity of the receptor.

3.105 I also find the proposal to would not satisfy the first requirement of LDP Policy 1 because I do not believe it has been sited and designed taking into consideration the location and the wider townscape, landscape and coastal character.

CHAPTER 4: ORNITHOLOGY, ECOLOGY AND NATURE CONSERVATION

4.1 Ornithology effects were reported in chapter 7 of the EIA report. Ecology and nature conservation effects were reported in chapter 8.

4.2 LDP Policy 9: Natural Heritage and Landscape deals with a wide range of matters. Of relevance to the effects that are considered in this chapter are Part A, which deals with natural heritage designations (international, national and local). Part B, which deals with protected species, and Part C, which deals with wider biodiversity and geodiversity issues.

4.3 Potential ornithological effects that were studied and reported in the EIA report include noise and visual disturbance during the construction period, displacement (including barrier effects) due to the presence of turbines, and the risk of mortality due to collisions with operating turbines. Cumulative effects were also considered.

4.4 Eleven protected avian species were given particular attention:

- red-throated diver;
- peregrine falcon;
- great skua;
- great black-backed gull;
- hen harrier;
- white-tailed eagle;
- merlin;
- short-eared owl;
- curlew;
- dunlin; and
- snipe.

4.5 Four designated sites of importance to ornithology were also considered:

- Hoy Special Protection Area (SPA);
- Scapa Flow proposed SPA (pSPA);
- Hoy Site of Special Scientific Interest (SSSI); and
- Hoy and North Walls SSSI Moorland Fringes Local Nature Conservation Site (LNCS).

4.6 The EIA report's ecology and nature conservation chapter considered terrestrial habitat effects using both desk and site-based studies. Important ecological features (IEFs), which are those of local or higher value, were identified for detailed assessment as follows:

- Hoy Special Area of Conservation (SAC) and SSSI;
- blanket bog;
- dry dwarf shrub heath;
- wet heath;
- running water;
- mountain hare; and
- fish.

4.7 The studies undertaken by the applicant and reported in the EIA report appear comprehensive and well executed. Some methodological queries have been raised by RSPB Scotland, which I have set out below. Due to my general satisfaction with the applicant's approach, I have not discussed effects that the application concludes would not be significant unless this has been disputed by another party.

Ornithological effects

4.8 At the scoping stage (when the proposal would have involved 30 turbines), concern was expressed by SNH (now NatureScot) and RSPB Scotland over effects on the qualifying interests of the Hoy SPA and notified interests of the Hoy SSSI. Both are designated for a number of bird species including breeding Arctic skua, great skua, peregrine, red-throated diver and black-backed gull. Such concerns fed into the applicant's decision to reduce the scale of the proposal to six turbines located to the eastern extent of the site.

4.9 The EIA report considered effects on individual avian species and on designated sites. Its approach to assessing the significance of effects on ornithology started with an assessment of the conservation importance of all bird species found during field studies within the study area. This importance is derived from both the species' legislative status and the numerical importance of the species at a geographical scale.

4.10 Species of very high (international) importance are those cited with reference to a SPA, proposed SPA (pSPA) or Ramsar site. High (national) importance species are Schedule 1 species under the Wildlife and Countryside Act (unless classified as very important), those that contribute to the integrity of a SPA or Ramsar site or SSSI, where the local population is a particularly important element of the national population or where there are fewer than 300 breeding pairs in the UK. Medium value species are regionally important (at an Orkney level). Low value species are of conservation importance at the level of Hoy only and those considered to have less than local (site) importance (such as amber list species) are assigned a negligible value.

4.11 The magnitude of impact of the proposal on each species took account of a range of factors including the geographical area or size of population affected, the scale of the effect, its duration, frequency and timing and its reversibility.

4.12 The significance of effect on each species was then determined having regard to the sensitivity of the particular species (their capacity to avoid, tolerate, recover from or adapt to a particular impact).

4.13 The application site is not within any site that is designated for ornithological interest, but there are several such sites in the surrounding area including Hoy SPA, Hoy SSSI, Switha SPA and Scapa Flow pSPA. The site also overlaps the Hoy and North Walls SSSI Moorland Fringes LNCS. Field studies were undertaken over two consecutive years to identify all bird species crossing the study area. Some were excluded from further consideration, as their presence was so low that the potential for there to be a significant effect could be scoped out. I have summarised below the EIA report's main findings and the responses to those findings from consultees.

4.14 Hoy SPA's red-throated diver population is estimated to be 6% of the British population. Further birds live within the wider Scapa Flow pSPA. The EIA report assigns 'very high importance' to this species as it is a qualifying feature of the Hoy SPA and Scapa Flow pSPA and a notified interest of the Hoy SSSI.

4.15 Hoy SPA is also home to six pairs of peregrine falcon (0.5% of the British population). These nest on the western cliffs of Hoy and the site is beyond the core, two kilometres breeding range that is assumed for this species although field surveys did detect peregrine crossing the site. The EIA report assigns 'very high importance' to this species as it is qualifying feature of the Hoy SPA.

4.16 Hen harrier breed on Orkney and were the most frequently detected raptor during the applicant's field studies. They are not a qualifying interest of any designated site and were assigned 'high importance' in the EIA report.

4.17 There is a breeding pair of white tailed eagle on Hoy. Their first successful breeding in 2018 was the first in 140 years. They are not a qualifying interest of any designated site in Orkney but are assigned a 'high' importance in the EIA report due to their scarcity and statutory protection.

4.18 Short-eared owl are also found on Hoy and it is believed that there are breeding pairs within 2 kilometres of the site boundary. These have been assigned 'high importance.'

4.19 Great skua were the most frequently observed species in flight, particularly between June and August. It is believed that there around 1600 apparently occupied territories (AOTs) on Hoy. Most of these are within the Hoy SPA, but there are some within the application site. Great Skua is a qualifying interest of the Hoy SPA so this species was assigned 'very high importance' in the EIA report.

4.20 Great black-backed gull are a qualifying interest of the Hoy SPA and a notified feature of the Hoy SSSI. Numbers on Hoy have decreased significantly in recent years and the field survey findings suggest that few individuals active at the application site would be from the SPA. Nevertheless, the report assigned a 'very high importance' to this species.

4.21 Curlew are assigned 'medium importance' by the EIA report, as a red listed species and a special wildlife feature of the LNCS. Snipe (like curlew) are a species that has been found to experience statistically significant reductions in numbers around UK wind farms. Snipe is an amber-listed species and was considered in the EIA report to have negligible importance. Dunlin are a special wildlife feature of the LNCS with territories across Hoy in higher land including within the application site along the top of Wee Fea. The EIA report assigned this species 'medium importance'.

4.22 During the construction phase, the EIA report concludes that species-specific mitigation measures would be required for a pair of breeding red-throated diver which have occupied a lochan close to the site in recent years. There is a hen harrier nest site 510 metres from the nearest proposed turbine and there are five hen harrier nesting sites within full view of the development. Mitigation measures for this species would need to be employed during construction to avoid a significant effect from disturbance.

4.23 There are 33 great skua AOTs within 500 metres of the site. Construction disturbance was found likely to lead to the temporary loss of between one and ten of these AOTs. This estimate was informed by experience of a nesting pair of great skua that appeared unaffected by the Ore Brae turbine construction process approximately 200 metres from their nesting site. The affected great skua AOTs are not within the Hoy SPA but within the LNCS. Effects on the LNCS are not predicted to adversely affect its integrity or the qualities for which it was designated.

4.24 Ten curlew pairs and 13 snipe were identified within 620 metres of the site. Previous studies have found a 40% reduction in curlew densities within a 620 metre radius of a wind farm during construction. The EIA report found that the potential temporary loss of four pairs of due to construction disturbance would, if it occurred, be a significant adverse effect at a less than local (site) level. A similar level of significance was attached to the potential loss of six to seven pairs of snipe, which previous studies have shown experience a 53% reduction within a 620 metre radius of a windfarm under construction. Previous studies shown dunlin to be unaffected by windfarm construction so no significant construction period effect is anticipated for the pair of dunlin that have nested in recent years approximately 200 metres from the Wee Fea access track.

4.25 No significant loss of avian habitat is predicted due to the small size of the proposed earthworks in comparison with the surrounding moorland habitats.

4.26 For the operational phase, the EIA report predicts the loss of two pairs of curlew (from an Orkney population of a few thousand) due to a combination of displacement and collision mortality. This was not considered to be regionally significant. However, due to the current high conservation concern for curlew, it was assessed in the EIA report as a significant adverse effect of less than local (site) level. The displacement of breeding great skua is also predicted - ranging from one pair (not significant) to six (significant at the less than local (site) level). This would not affected any breeding pairs within the Hoy SPA and again, effects on the LNCS are not predicted to adversely affect its integrity or the qualities for which it was designated.

4.27 Collision risk modelling in the EIA report was carried out for six target species (red-throated diver, peregrine falcon, hen harrier, white-tailed eagle, great skua and great black-backed gull), which were recorded flying through the risk window/wind farm buffer at rotor height in sufficient numbers to possibly result in a significant collision risk.

4.28 The only significant effect found in the EIA report was for white-tailed eagle. Collision mortality for the adult Hoy white-tailed eagle population was predicted to occur at an annual rate of 0.36 (around one collision death every three years). For adult birds this would be one collision every seven or eight years. This prediction was based upon a 95% avoidance rate observed at a Norwegian windfarm (although more recent research at that location suggests a higher rate may be appropriate). This was assessed as a significant adverse effect at the regional scale.

4.29 The Norwegian study found that the highest collision risk occurred in the spring, when birds are displaying at breeding territories. On Hoy, the breeding site is more than five kilometres from the application site (within the RSPB Scotland reserve) and as there are few birds on the island at any one time, the applicant believes there is little likelihood of the more risky territorial display flights taking place in the vicinity of the windfarm. It is argued that this could justify the use of a higher avoidance rate. If a 98% rate were assumed, the adult mortality rate would drop to one collision every 20 years.

4.30 None of the other operational phase effects (whether from displacement or collision mortality) was assessed as significant.

4.31 Orkney Field Club (OFC), a local charity involved in ecological monitoring and conservation, has raised a number of criticisms of the appellant's approach to modelling collision risk. It is concerned that this is a relatively new and inexact science and that the

applicant's remarks about few carcasses being detected close to turbines being a possible reason to take a less precautionary approach to avoidance rates, should not be followed.

4.32 The reason for its concern is that there are several species of scavenging birds with quite large populations in Orkney, for example large gulls, great skua, raven and crows which can remove corpses in a short period of time after death. Therefore, unless searches for corpses were undertaken on a very regular basis, perhaps twice every day, one cannot conclude that there were no corpses and one should not assume a higher rate of collision avoidance. It also notes that another very important factor which has not been taken into account during the applicant's collision risk analysis, is the effect of foggy or misty conditions on the behaviour of birds.

4.33 RSPB Scotland has also raised concern over too much reliance being placed on carcass discovery as an indicator of a collision. In addition to the scavenging issue raised by OFC, it refers to the carcass being camouflaged by ground cover and not detected, by it being thrown clear of the search area by the collision, or by injured birds leaving the search area before dying. It also notes that Burgar Hill windfarm, which has been used to inform collision avoidance assumptions, comprises a single row of turbines rather than the array that is proposed here, which might make it easier for birds to avoid collisions.

4.34 OFC is concerned that the effect on curlew has been underestimated as there is no evidence that curlew return to the vicinity of a windfarm after having been displaced during the construction stage. It notes that Orkney holds approximately 20% of the UK's wintering curlew population and that the UK population is of global importance.

4.35 For red-throated diver, RSPB Scotland notes that the site lies directly between red-throated diver breeding lochs within the Hoy SPA and their main feeding areas in Scapa Flow. It is concerned that the proposed turbines are likely to pose a barrier and/or collision risk to divers commuting back and forth and states that the proposed windfarm is located in an area that is inarguably important for breeding red-throated diver. As a result of collision impacts alone, it notes that the EIA report indicates a population reduction of 5.66% over 25 years. From this, it concludes that an adverse effect on the integrity of the Hoy SPA or the Scapa Flow pSPA cannot be ruled out.

4.36 OFC notes that Hoy is home to around 5% of the UK population of red-throated diver and that flight lines from nest sites to Scapa Flow, cross the application site. Based upon a 99.5 % avoidance rate, the EIA report predicts a 5.7% decline in the population over a period of 25 years. OFC argues that such a decline could be cause for concern and that if a truly precautionary approach were adopted, say using a figure of 95% avoidance (as for White-tailed Eagle) then the significance of the negative effect on the breeding population of this species would be of far greater concern.

4.37 OFC notes that currently, 60%, (9,600 AOTs) of the global great skua population is found in the UK, predominantly in Orkney and Shetland and therefore these islands have a great responsibility towards protection of the species. However, population levels on Hoy are in decline. The EIA report predicts a collision rate of approximately seven birds per year (assuming 99.5% avoidance). This would lead to a population decline over 25 years of around 4.5%, which is not found to be significant. The EIA also suspects that a collision rate of 99.5% is pessimistic, as carcass searches in the vicinity of other Orkney turbines have found far fewer great skua collision victims than this rate would suggest.

4.38 OFC notes that there were so many great skua flights through the application site during the applicant's field studies that it was impossible to record all the flights accurately. It notes that the breeding populations of many seabird species in UK waters have been declining. In some cases there have been dramatic declines and those of the great skua are of serious concern. The reasons for these declines are complex but include rising sea temperatures, plankton shifts and decline of prey items particularly small fish such as sand eels. Considering that the great skua population is already declining and still threatened by the factors mentioned above, OFC believes it is totally unacceptable to be blasé about what would be an additional, significant reduction in the population resulting from the installation of this development in such a sensitive location on Hoy.

4.39 OFC does not agree with the EIA report that the collision mortality predictions for hen harrier (3% population decline over 25% years) should be regarded as insignificant, given the other challenges the species faces. Concern is also expressed over the introduction of any collision risk for peregrine or merlin.

4.40 For white-tailed eagle, considering the fact that only one pair nests in Orkney (within RSPB Scotland's Hoy reserve) and that it is unlikely that many more than this will nest in the near future, OFC questions whether the predicted collision rate is acceptable and sustainable for the species, as a bird killed every three years could result in the complete disappearance of this species as a breeding bird in Orkney. RSPB accepts that the breeding site is 5 kilometres from the nearest proposed turbine, but points out that white-tailed eagle are wide ranging and particularly susceptible to collision. It notes that there were several at risk flights recorded during the 2018 and 2019 surveys including adult and juvenile/ sub-adult birds. It does not accept use of a 98% avoidance rate rather than the 95% typically used, but notes that even assuming a 98% rate, a significant adverse effect is predicted. RSPB Scotland points out that the Hoy reserve has proved a significant attraction for the community in Orkney and visitors from further afield, with the popular Eaglewatch viewpoint providing interpretation and eagle spotting opportunities run each year by volunteers.

4.41 RSPB Scotland is also concerned about: the predicted adverse impact to great skua, which are qualifying interests of the Hoy SPA; .the predicted adverse impact to hen harrier population on Hoy; predicted significant impacts on nationally designated sites including Hoy SSSI and the LNCS associated with loss of habitat and disturbance; and the predicted loss of high quality peatland habitat.

4.42 In response, the applicant points out that the results of collision risk modelling are not predictions of what would happen, but are model outcomes base upon some real-life evidence. It notes that NatureScot has raised no objections in relation to ornithology.

4.43 On the question of whether carcasses present an accurate indicator of collision mortality, the applicant advises that this issue was specifically investigated at the Burgar Hill and Hammars Hill windfarms in Orkney. Of 12 fresh or recent large bird carcasses, five were scavenged on site within a few days but there were plentiful remains present for several weeks afterwards, five simply rotted where they lay, and only two were removed from site leaving only a few feathers to indicate their presence. Due to their body shape, red-throated divers move poorly on the ground so would be unlikely, if injured, to move far from where they landed and avoid detection in that way. In addition, as the two key species in Hoy – great skua and red-throated diver, are large, heavy birds, it is considered unlikely that they would be removed in their entirety by a scavenger leaving no trace of a collision.

For these reasons, the applicant is confident in the usefulness of this as an indicator of mortality.

4.44 The applicant argues that, as there is only one breeding pair of white-tailed eagle in Orkney, almost any adverse impact on white-tailed eagle would appear significant. However, the increasing number of immature birds now present in Orkney (at least three as of April 2021) and the continuing increase in numbers nationally, indicate a continuing upward trajectory for this Natural Heritage Zone as well as the national population. This, it is argued, will tend to counter the occasional additional mortality. The applicant reiterates that NatureScot has raised no ornithological objection.

4.45 The EIA report proposes four additional mitigation and enhancement measures for ornithology. If Ministers are minded to allow this appeal, these could be secured by suggested condition 20.

4.46 The first is the implementation of a breeding bird protection plan that would involve pre-construction breeding bird surveys, the appointment of an ecological clerk of works and the imposition of an exclusion zone around any active nest during the construction process until the young had successfully fledged. The second is the maintenance, during the breeding season, of a 500 to 750 metre buffer (to be agreed with NatureScot) between construction works and any lochans occupied by red-throated diver. The third is the maintenance of a similar buffer from any active hen harrier nest. The fourth is a buffer of 300 to 500 metres from any active short-eared owl nest.

4.47 Due to the low numbers of wind turbines in the study area, the cumulative collision risk to the Hoy SPA red-throated diver, peregrine and great skua populations was found to be essentially the same as for the proposed development on its own. Therefore no separate cumulative assessments are required for these species. The cumulative collision risk estimates at 99.5 % avoidance, (considered moderate likelihood) would result in modelled declines of less than 3 % (relative to the baseline) in the Orkney female and Orkney male hen harrier populations over a 25-year period. The EIA report assessed this as not significant.

Terrestrial ecological effects

4.48 For terrestrial ecology, the EIA report's initial desk study used a search radius of two kilometres from the site boundary and 10 kilometres for bat roosts. Three site studies were then undertaken:

- an extended National Vegetation Classification (NVC) survey of the developable area plus a 250 metre buffer around potential locations where excavations deeper than one metre would be required, and a 100 metre buffer elsewhere;
- an otter survey;
- a fisheries survey of the Burn of Ore and the Burn of Longigill.

4.49 The NVC survey found a range of habitat types and quantified the effect on each in terms of permanent loss, temporary loss and indirect effects.

4.50 No evidence of otter was found within the study area, and the habitats within the site are considered to have limited suitability for that species. The council's environmental policy planner notes that, although an otter survey undertaken in November 2019 found no evidence of otter presence, a follow-up survey should be undertaken within 6 months of any

works commencing on the site. The applicant is agreeable to a pre-construction otter survey to determine whether otter have become established in the intervening period and, if so, to devise appropriate mitigation measures. Suggested condition 19 would secure this if Ministers were minded to grant planning permission.

4.51 No evidence of bats or habitat suitable for roosting bats was found and it was considered unlikely that bats would use the site for foraging as the nearest location where bats are recorded as roosting is over four kilometres away.

4.52 The two watercourses that were studied were found to contain brown trout and other species.

4.53 Mountain hare were recorded along with three species of damselflies / dragonflies of conservation interest

4.54 Following the implementation of good practice mitigation measures during the construction period, the EIA reports a medium adverse effect on the Hoy and North Walls SSSI Moorland Fringes LNCS due to the loss of wet heath and blanket bog habitat. This is assessed as significant on a council area (ie less than local) scale. A medium (significant) local level effect is predicted for the dry dwarf shrub heath habitat on the site. No direct impact on this habitat is predicted, but, without further mitigation, loss of this Scottish Biodiversity List priority habitat from construction machinery damage cannot be ruled out. No other significant terrestrial ecology effects were predicted either during construction, operation or decommissioning.

4.55 The EIA report then set out additional mitigation, compensation and enhancement measures to address the identified significant effects. These would include a habitat protection plan to prevent construction activity straying into particularly sensitive areas of the site and a habitat management plan to implement blanket bog restoration both on site and elsewhere within the applicant's control. With these in place, no significant residual effects on terrestrial ecology are predicted.

4.56 Orkney Field Club is concerned that the EIA report's investigation of plant species identified a far narrower range of species than has been identified previously. This may be due to the sub-optimal time of year when survey work was carried out (which the EIA report recognises). Particular concern is expressed over the Leopard or Flecked Orchid, one of the rarest orchids in Great Britain, which was discovered here in June/July 2019, independently of the EIA surveys. It is included in the species list in Appendix 8.1 of the EIA report, but not mentioned elsewhere. This orchid has been recorded at three places within the site boundary, two close to turbine 4. Two other species – broad leaved cotton plant and heath cudweed are also believed to be present. These are only found in two other places in Orkney and would potentially be adversely impacted, from direct destruction of plants and disruption of supporting habitats.

4.57 OFC also notes that turbine 4 is proposed to be sited within 250 metres of a groundwater dependant terrestrial ecosystem (GWDTE). It is concerned that the 50 metre micrositing allowance that has been sought could allow the turbine to encroach closer to the GWDTE, potentially affecting it more significantly than has been assumed.

4.58 A further OFC concern is with the EIA report's conclusion that the proposed compensation for the predicted loss/drying effect of almost 20 ha of blanket bog will lead to an impact that is "barely perceptible and insignificant" and "beneficial". OFC notes that the

area of impact includes 4.5 ha permanently destroyed, which clearly cannot be imperceptible or beneficial. Moreover, an assessment of insignificant and beneficial impact on the remaining area relies on restoration measures being highly successful. OFC believes this is rarely the case with these habitats and is more a hope than a reality

4.59 NatureScot notes that the development site contains small areas of good quality peatland habitat, though these are sufficiently distant from the turbine locations, tracks and other infrastructure not to be adversely affected. There will nevertheless be some loss and further damage to lower quality, modified peatland habitat. It welcomes the proposed Habitat Management Plan and supports the proposed restoration and management of peatland habitat. However, it feels this needs to be more ambitious if it is to fully compensate for the habitat lost or damaged by the development, particularly in relation to the extent of habitat to be brought under a more favourable management regime with regard to control of livestock, peat cutting and muirburn.

4.60 The council's environmental policy planner is concerned that the EIA report did not fully consider the potential for cumulative habitat loss effects. The applicant accepts that it focussed on in-combination effects rather than considering the extent to which the finite resource of high biodiversity value land in Orkney would be eroded by this and other wind energy proposals that are proposed to be sited on such land. However, as this proposal incorporates proposals for habitat management to offset significant effects on habitat losses, the applicant is confident that no significant cumulative habitat loss effects would arise.

4.61 The British Dragonfly Society ask that as mitigation, a number of new pools are dug by diggers on site to create new dragonfly habitat, and that larvae are relocated from any pools that are destroyed as part of the project. OFC notes that pools at Wee Fea near turbine 2 referred to in the EIA report are well known and support six breeding dragonfly / damselfly species (not five as stated in the EIA report). It believes the site provides an ideal opportunity for people of all ages and abilities to see these insects and that the pools should be conserved and enhanced, or if this is not possible, replaced by a site of more than equal quality. It suggests there is the potential for a boardwalk and interpretation along the lines of those proposed for wartime buildings, which the community (local/Orkney-wide/tourists) could make use of for education, mindfulness and well-being. These requirements could be secured by suggested condition 29.

<u>Ornithology, ecology and nature conservation conclusions</u>

4.62 Hoy is a highly sensitive environment from an ornithological point of view. Some adverse effects are predicted for species that are a qualifying interest of the Hoy SPA and Scapa Flow pSPA. This has the potential to adversely affect the objectives of the designation or the integrity of the site and if it did, should only be permitted if there was no alternative solution and there are imperative reasons of over-riding public interest.

4.63 There is a range of opinion on how significantly this proposal might affect the qualifying interests of the Natura 2000 sites. RSPB Scotland and OFC are concerned over the potential reduction in the red-throated diver and great skua populations due to collision mortality. In contrast, NatureScot does not believe that natural heritage interests of international importance (European sites) or national importance (the SSSI) would be adversely affected. Having regard to all of the submitted evidence, I am satisfied that this proposal would not adversely affect the objectives of the designation or the integrity of the Hoy SPA and Scapa Flow pSPA. It would not therefore conflict with LDP Policy 9 A 1.

4.64 LDP Policy 9 B does not permit development likely to have an adverse impact on any protected species unless justified in accordance with the relevant protected species legislation. Further detail is provided in SG: Natural Environment. This confirms that the presence of species with special protection, either on or near a proposed development site, is a material consideration in decisions on planning applications. Their presence rarely imposes an absolute block on development, however mitigation measures will often be necessary and this can affect the design, layout and timing of the works.

4.65 In this instance there is likely to be some harm to red-throated diver, great skua, hen-harrier, curlew and white-tailed eagle populations. Even with mitigation, some adverse impacts would remain, although the evidence suggests this would be limited in severity. There is no indication that such effects would require a licence to be issued and I am satisfied there would be no conflict with Policy 9B. However, these residual adverse effects remain a disbenefit of the proposal to be weighed in the planning balance.

4.66 Turning to terrestrial effects, the concerns raised by consultees are noted. If Ministers are minded to grant planning permission, care would need to be taken with planning conditions so that the issues raised were adequately controlled.

4.67 The applicant's commitment to a habitat protection plan (which is one of the requirements of suggested condition 14) should ensure that indirect effects upon the important plant species mentioned by OFC would be secured in the same way the applicant envisaged for the dry dwarf shrub heath habitat, which the EIA report identified as needing such protection.

4.68 Suggested condition 18 would require a habitat management plan to secure blanket bog restoration. NatureScot's concern is that what has been proposed in compensation for the on-site habitat loss is insufficient. However, as the habitat management plan would require to be approved by the planning authority (who would no doubt seek the views of NatureScot, and Scottish Environment Protection Agency) its sufficiency would remain a matter the authority could control.

4.69 Suggested condition 19 would require a species protection plan for otter. This should address the possibility that, between the dates on site survey work and the commencement of construction, any otter that had colonised the site were identified and appropriately protected.

4.70 Micrositing is covered by suggested condition 17. This requires any change in turbine position from that shown in the application to have been agreed by the ecological clerk of works. I am satisfied that this should ensure that the proposed repositioning of a turbine which would have a greater adverse impact on any ecological interest could not take place unless properly justified and controlled.

4.71 Subject to these conditions, I am satisfied that there would be no significant effects on terrestrial ecology. A significant adverse effect on white-tailed eagle is predicted, which is an undoubted disbenefit of the scheme. However, on balance, I believe the proposal would satisfy the requirements of LDP Policy 9 A, B and C.

CHAPTER 5: NOISE

5.1 Noise effects during the construction and operation phases of the proposed development were reported in Chapter 9 of the EIA report. The methodology followed the conventional format of liaison with the council's environmental health team followed by baseline noise characterisation, the prediction of noise levels likely to arise during all phases of the proposed development and an evaluation of the significance of noise effects (including cumulative effects with other noise generating development), based upon the predicted noise immissions at noise sensitive receptors.

5.2 "The Assessment and Rating of Noise from Wind Farms" (known as ETSU-R-97), remains an important source of guidance on this issue. This was supplemented in 2013 with a "Good Practice Guide to the Application of ETSU-R-97" from the Institute of Acoustics (the IoA GPG). Both of these documents were considered in the preparation of the applicant's noise assessment, along with PAN 1/2011 Planning and Noise and its accompanying TAN.

5.3 I am satisfied that the EIA report adopted an appropriately conservative approach throughout. For example, during the baseline monitoring exercise it was discovered that noise from the sea had a noticeable influence over background noise levels at one of the three noise monitoring points when the wind was blowing from the sea towards the monitoring equipment. As that monitoring point was representative of noise sensitive receptors that could never be downwind of both the sea and the proposed turbines (meaning sea noise could never mask turbine noise) all measurements where the monitoring point was downwind of the sea were excluded. A further example, which follows guidance in the IoA GPG, was to add a +3 dB correction to account for valley effects (concave ground between the noise source and receptor tending to increase sound propagation). This affected seven of the 20 noise sensitive receptors.

5.4 The EIA report identified 20 noise sensitive receptors within a 35 dB(A) (excluding cumulative effects) operational noise contour study area. Some residents of those properties advise that the existing, significantly smaller, community turbine at Ore Brae is already audible and express fear that six, significantly larger machines, albeit further away, would have an unacceptable effect on residential amenity due to noise.

5.5 Vibration effects were scoped out of the EIA report due to the separation distance from the nearest noise sensitive receptor. I agree that this was reasonable. I also agree that traffic to the site during the operational phase would be so infrequent as to justify scoping operational traffic noise out of the assessment.

5.6 The EIA report assigned a high level of sensitivity to all noise sensitive receptors. For both the construction and the operational phases, the magnitude of impact was assessed by calculating the difference between the predicted noise level at the receptor and a daytime noise limit that was set for each phase.

5.7 During the construction period, having regard to the relevant British Standard for construction noise assessment – BS 55228, a weekdays and Saturdays daytime noise limit of 65 $dBL_{Aeq,T}$ was chosen. The EIA report predicts the worst affected receptors to be the residential properties of Moorlands and Thurvoe. The council's environmental health team has not taken issue with the EIA report's approach to the construction phase and I agree that it seems appropriate.

5.8 The construction phase would incorporate good practice measures to minimise noise such as switching off plant when not required, the use of white noise rather than beeping reversing alarms and, where possible, the selection of noise reduced plant. These measures could be secured by a construction noise management plan, as is required in condition 14 in the suggested conditions at Appendix 1 to this report. Using the above approach, the EIA report predicts no significant (ie moderate or major) construction phase noise effects. Indeed, at the most affected receptors, construction noise is predicted to be at least 17 dB below the 65 dB noise limit. I agree with the EIA report that this would be a negligible effect.

5.9 Turing to operational noise effects, the council's environmental health team also appears to be generally content with the EIA report's approach. However, it believes the appropriate daytime cumulative noise limit should be the higher of 35 dB(A) or background plus 5 dB(A) at any noise sensitive receptor.

5.10 ETSU-R-97 specifies operational daytime noise limits of either 5 dB above the prevailing background noise level, or a level between 35 and 40 dB(A), whichever is the higher. The applicant points out that the council's request for 35 dB(A) is at the very lowest end of the range referred to.

5.11 ETSU-R-97 suggests night time background noise limits of either 5 dB above the prevailing background noise level, or 43 dB(A), whichever is the higher. This limit was adopted in the EIA report, and it predicts no instances of that limit being exceeded. The environmental health team has not raised any concern with the night time period.

5.12 The EIA report found that, when considered in isolation, the proposed development would be likely to comply with a 35 dB(A) or background +5 dB daytime limit, subject possibly to some minor curtailment of a small number of turbines. However, ETSU-R-97 requires noise effects to be considered on a cumulative basis.

5.13 When considered cumulatively with the two existing turbines in the locality (a 45 metre hub height Enercon turbine at Ore Brae and a small Ecotech Scirocco machine at Gable End Theatre), both of which have 35 dB(A) noise limits, compliance with that limit would be impossible without very extensive curtailment, as the existing machines use all of the available noise budget.

5.14 The EIA report considered whether daytime limits of 38 dB(A) and 40 dB(A) could be complied with, taking account of the existing turbines. A 38 dB(A) limit was found to require less, but still substantial, curtailment, whereas a 40 dB(A) limit would enable the development to operate at all wind speeds and directions without any curtailment, thereby maximising generating capacity.

5.15 ETSU-R-97 lists three factors that can potentially justify higher daytime noise limits.

5.16 The first is the number of dwellings in the neighbourhood of the wind farm. In absolute terms, the nearest settlement of Lyness has a small number of noise sensitive receptors and of those, the EIA report predicts that only 9 would experience noise levels above the 35 dB(A) level. However, in the context of Hoy, Lyness represents a concentration of population and so, in the local context, is more sensitive to noise effects.

5.17 The second is the effect of a lower limit on the number of kilowatt hours generated. The applicant's evidence suggests that the power output difference between a 35 dB(A)

and 40 dB(A) limit would be very significant. If turbines were switched to "sound optimised" rather than "power optimised" mode, an electrical power reduction of up to 30% could be expected. And if a turbine required to be deactivated in order to achieve the lower limit, its power output would clearly reduce to zero until reactivated.

5.18 In order to comply with a 35 dB(A) limit, the applicant's modelling suggests that for wind directions of between 160 degrees and 70 degrees and wind speeds of between six and nine metres per second, five of the six proposed turbines would need to be switched off.

5.19 The final factor to consider is the duration and level of exposure to noise – the worse the effect that is experienced by noise sensitive receptors of accepting a higher noise limit, the less likely it is that this would be justified in the public interest.

5.20 The applicant acknowledges that introducing more turbines would increase the level of exposure to wind turbine noise of most nearby noise sensitive receptors. However, it points out that receptors further away from the site would still experience no significant noise effects and the duration of exposure for those that are currently affected by the Ore Brae turbine is not predicted to increase greatly, given the similarity of the orientation of the proposed turbines to the existing Ore Brae turbine at the majority of those receptors. At six of those receptors, the EIA report predicts that noise from existing turbines (mainly the Ore Brae machine) would remain dominant for most of the wind speed range.

5.21 Taking all factors into account, I conclude that, if Ministers are minded to grant planning permission, there would be no logic in applying a daytime cumulative noise limit of less than 40 dB(A) , as that would be likely to curtail the operation of the development to such an extent that it could effectively remove the benefit of the permission. The applicant's requested daytime cumulative noise limit of 40 dB(A) is within the range advocated by ETSU-R-97 and is, in my experience, not uncommon. I am satisfied that the implications of that approach have been carefully considered in the EIA report and that even the noise sensitive receptors most affected by noise from the proposed turbines (being those closer to the Gable End Theatre turbine and further from the Ore Brae machine) would not experience an unreasonable increase in the level or duration of exposure to wind turbine noise.

5.22 Overall, the EIA report predicts a minor adverse (not significant) operational cumulative noise effect at the receptor that would experience the most cumulative turbine noise (Ore Farm). I agree with that conclusion. This meets the expectations of LDP Policy 7 D (i) (a).

5.23 Should Ministers resolve to grant planning permission, the council's environmental health team requests a planning condition requiring the developer to re-assess likely noise effects in the event of a change from the candidate turbine. The applicant has committed to undertaking a supplementary noise assessment to ensure that any alternative machine would comply with the imposed noise limits. However, I do not consider it necessary to secure this in a planning condition, as suggested condition 26 would already require any turbines installed at the site to operate in accordance with its specified noise limits.

CHAPTER 6: CULTURAL HERITAGE

6.1 Cultural heritage issues were reported in Chapter 10 of the EIA report. The applicant's approach was to follow the guidance set out in Historic Environment Scotland's (HES's) Managing Change in the Historic Environment: Setting publication of 2016. No party has challenged the applicant's approach and I agree that it was appropriate.

6.2 Policy HEP2 of HES's Historic Environment Policy for Scotland seeks to secure the benefits of listed buildings for future generations.

6.3 LDP Policy 8: Historic Environment & Cultural Heritage, and its accompanying supplementary guidance, seek to protect all aspects of cultural heritage, whether designated or not. Development which would have an adverse impact on the archaeological, architectural, artistic, commemorative or historic significance of an asset will only be supported if such impact is mitigated as far as possible, and the residual loss of significance is outweighed by the social, economic, environmental or safety benefits of the development.

6.4 There is a wide range on non-designated Second World War assets within the site including trenches, access tracks, and earthworks. The EIA report predicts a moderate (significant) direct effect on 13 of these, but points out that this represents a small proportion of the extensive remains. No party has objected to this predicted effect. Should Ministers resolve to grant planning permission, I am satisfied that suggested condition 21, which would require an archaeological watching brief, would adequately address such effects.

6.5 Turning to designated assets, within the EIA report's study area there are five structures dating from the First and Second World Wars. All are category A listed:

- The former naval HQ (Wee Fea, LB 48378)
- Underground Fuel Reservoir (Wee Fea, LB 52318)
- Former Diesel Engine Pumphouse (Lyness, LB 52320)
- Former Pumphouse and Oil Storage Tanks and Bund (Lyness, LB 50533)
- Former First World War Paravane Shed and Second World War Royal Naval Recreation Centre (Lyness LB 48356)

6.6 There has been extensive discussion between the applicant and HES aimed at resolving HES's objection to the proposal. HES's concern is that the proposal would have an adverse impact on the setting of the former naval headquarters and communications centre (the former naval HQ). It has raised no other formal objections to the proposal, including in respect of scheduled monuments and the World Heritage Site, which are within its remit.

6.7 Having considered all of the applicant's evidence and the representations from interested parties, and having visited the site and surroundings, I agree that there is no likelihood of any significant direct effects any designated heritage asset or any significant indirect effects on the setting of any designated heritage assets other than the abovementioned former naval HQ building and the category B listed royal naval cemetery at

Lyness. The EIA report predicts a moderate (significant) effect on the setting of these two heritage assets.

6.8 Section 59 of the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 sets out the legal test that Ministers must comply with when determining this application:

> *'In considering whether to grant planning permission for development which affects a listed building or its setting, a planning authority or the Secretary of State, as the case may be, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.'*

The former naval headquarters

6.9 The former naval HQ's category A listing means it has national importance and has been assessed as an outstanding example of its period, style or building type. It was built in 1943 and played an important role in the Second World War, accommodating up to 270 staff.

6.10 The building is disused and is included in HES's Buildings at Risk Register. The register records an external inspection in 2013 which found the following:

> *"External inspection finds this building has suffered from weathering but remains intact. Render is missing in places and much dampness is evident to walls. Rainwater goods are mostly broken or missing causing water staining. The steel window frames and doors are heavily corroded or missing. The condition of the flat roof could not be ascertained. The complex is disused."*

6.11 In 2020, the external ventilation stack on the building's south east side collapsed. HES does not believe this has significantly affected the character of the listed building, but I believe it is evidence that the long-term structural integrity of the building must be in some doubt.

6.12 The applicant recognises the considerable importance of Scapa Flow and its attendant military bases as a record of one of Britain's most important strategic assets during both World Wars. However, it believes that a high proportion of this significance relates to their overall historical value and the Scapa assets' associations with significant naval events rather than the architectural or archaeological value of specific buildings or remains. Nevertheless it recognises HES's view that the former naval HQ is unique within Scotland.

6.13 The applicant identifies two elements of the setting of the former naval HQ, which contribute to our ability to understand its cultural significance and special interest. These include views out from the building and views towards the building from its surroundings.

6.14 The building occupies an elevated hillside position, to give its occupants wide views out across Scapa Flow and improved lines of communication with the fleet anchored in the bay when compared with an earlier structure that it replaced, which was located close to Lyness at a lower elevation.

6.15 The applicant also recognises the importance of views from the building to other contemporary military structures which were dispersed across the various bays and

headlands including the core base areas at Lyness, Rinnigill and Flotta, the batteries on Hoxa, Flotta and elsewhere, and the landing stages at Houton and Scapa Bay.

6.16 I agree with the applicant that, as the proposed turbines would be on the landward side of this building, there would be no material detriment to this relationship between the building and the sea or the military structures that are sited close to it. Therefore, while they would detract from the visual amenity of any visitor to the building (as pictured in the applicant's cultural heritage viewpoint 1), it would remain possible for such visitors to understand why the building was situated where it is and how it would have functioned during wartime.

6.17 I am more concerned over the effect of the proposal on views towards the building from elsewhere. The applicant recognises that the distinctive profile of the former naval HQ on a remote hillside overlooking Scapa Flow serves as a reminder of the military activity at Lyness during the Second World War. HES's objection is to the harm to the hillside setting of the building that it believes would arise from this proposal. It notes that turbines 1 and 6 would be seen directly behind the former naval HQ building when seen from some locations in Scapa Flow. It believes this would undermine the appreciation and experience of this structure as the focal point in the landscape where signals were directed to and from.

6.18 The applicant points out that the extent to which turbines would appear directly behind the building in views towards the former naval HQ, is variable. For example, on the approach roads to Lyness from the north and south, from where the former naval HQ appears on the skyline, visible turbines breaking the skyline would be offset from the listed building rather than directly behind it.

6.19 The applicant argues that the principal means of communication between the listed building and the wartime fleet was via terrestrial and underwater cables. Although it is believed that visual signalling may also have been employed (historic photographs show a signalling mast on the roof) no trace of any visual signalling equipment remains. For this reason, the applicant argues that the visual communication role the building once had is no longer a readily appreciable element of its setting.

6.20 The applicant accepts that turbines would be seen rising prominently behind and above the former naval HQ in such views, drawing attention away from the listed building. However, as it believes such views are not key to understanding the building's cultural significance and special interest, it argues that the weight this negative effect should be given ought to be limited.

6.21 I am not convinced that the absence of any visible remains of visual signalling equipment on the former naval HQ significantly reduces the contribution to understanding the cultural significance and special interest of the building that is made by views towards the building from its seaward side. The applicant recognises that the site was selected not only because it afforded open views over Scapa Flow, but also because it allows the building to be visible from Scapa Flow. The fact that the building occupies a prominent hillside location (unlike its predecessor) is sufficient, in my view, to confirm that views towards the building from Scapa Flow, as well as in the opposite direction, are important to understanding its cultural significance and special interest. It does not matter that the choice of an elevated location was prompted by military considerations rather than aesthetic or architectural values (as the applicant points out). Similarly, the utilitarian nature of the building, which was erected at short notice and never intended to endure, does not diminish its value today.

6.22 The applicant states that, as the proposed turbines not would interrupt views towards the former naval headquarters and other military structures, they would not adversely affect the ability to understand the critical strategic positioning of the Naval HQ on the slopes of Wee Fea. It argues that the key relationship between the former naval HQ and the military remains at Lyness which it overlooks would not be altered and the special interest of the building would be preserved.

6.23 At present, the former naval HQ building is a visually striking skyline feature, of a scale that is uncommon in the locality. In my view, due to the vast size difference between this building and the turbines that are proposed behind it, this nationally important building would lose its sense of significance and importance in the landscape. I agree with the EIA report that it would remain possible for a visitor to appreciate and understand the role the building played in the Second World War and why it was sited and designed as it was. However, the critical importance of the building and its wartime status would be diminished by its apparent scale being greatly reduced by the siting of such significantly larger structures nearby. I find this to be a moderate / major significant adverse effect.

6.24 This adverse impact on the historic significance of this asset is not able to be mitigated without the deletion or significant re-siting of the nearest turbines. The proposal will only comply with LDP Policy 8 if it is concluded that the residual loss of significance is outweighed by the social, economic, environmental or safety benefits of the development. I address this question in the conclusions chapter of this report.

The royal naval cemetery

6.25 The royal naval cemetery is category B listed. It dates originally from 1915 but some of its important elements, including the Cross of Sacrifice, date from 1925. It contains graves from both world wars. The application site is approximately 1.2 kilometres to the south west of the cemetery and the applicant's landscape and visual viewpoint 11 and cultural heritage viewpoint 2 show how the development would be seen from this location – the hubs of three or four turbines and the blades of a further two being very dominant on the skyline behind the formal naval HQ.

6.26 The EIA report recognises the high sensitivity of this receptor and accepts that the development would constitute a change to its wider setting. However, it concludes that the development would be seen offset to the west of key sightlines within the cemetery and thus would not challenge the appearance of the Cross of Sacrifice on the skyline when viewed from the entrance to the cemetery to the north or indeed for other local points within the landscape where the cross appears against the skyline. The EIA report concludes that the visual and contextual relationship between the cemetery and the former naval base at Lyness and its associated visible military remains, would not be affected. The magnitude of impact would therefore be low and the level of effect would be moderate and significant.

6.27 I note that HES's objection to the proposal does not refer to the cemetery and that the county archaeologist found that "*key sight lines are preserved by design – this is especially important in the case of the cemetery at Lyness.*" Having regard to all of the evidence, I agree with the EIA report's conclusion of a moderate (significant) effect on this cultural heritage asset. As with the effect on the former naval HQ (which I believe would be more harmful) the LDP Policy 8 test is whether the loss of significance is outweighed by the social, economic, environmental or safety benefits of the development.

Cultural heritage conclusions

6.28 Having regard to all of the submitted material and my site inspection, I agree with the EIA report that significant cultural heritage effects would be limited to two designated heritage assets: the former naval HQ and the royal naval cemetery.

6.29 For the former naval HQ, I believe the effect on the setting would be greater than the moderate level found in the EIA report. Such is the scale difference between the building and the proposed turbines, particularly the three that would be closest to it, that the building's role as a visual focal point on the hillside above the bay would be lost. This would, in my conclusion amount to a moderate / major adverse effect on the setting of this building due to the observer's ability appreciate the strategic wartime significance of the building being substantially undermined.

6.30 For the royal naval cemetery, I agree with the EIA report's finding of a moderate (significant) effect. The turbines would tend to draw the eye away from the graves and the Cross of Sacrifice, appearing as an alien intrusion into the otherwise visually subdued setting to the cemetery. However, a visitor's ability to appreciate its cultural significance and its special interest would not be harmed to the same extent as for the former naval HQ due to the greater sense of the turbines being detached from the heritage asset.

6.31 HES's advice is that turbines 1, 2 and 6 should be removed or relocated in order to avoid unacceptable harm to the setting of the former naval HQ. That is not an option considered viable by the applicant due to the presence of other (particularly ornithological) constraints on re-siting. Instead, the applicant has offered two compensation proposals. As the proposal's identified significant effect on cultural heritage is ultimately an impact upon the ability of the surroundings of the historic asset to contribute to an observer's understanding, appreciation and experience of the asset, the proposed compensation aims to increase the understanding, appreciation and experience of the assets and the wider archaeology of the area

6.32 The first proposal is the formation of a heritage trail. This would provide improved physical access to all of the wartime assets, together with interpretation boards to improve visitors' understanding and appreciation.

6.33 The applicant has also suggested (but not detailed) that the former naval HQ building, which is within the same ownership as the application site, could benefit from maintenance, enhancement and interpretation works.

6.34 Both compensatory measures would feed into an assessment of the positive and negative consequences of the proposal that is required by LDP Policy 8 and discussed in Chapter 12 of this report.

CHAPTER 7: GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

7.1 These topics were assessed in Chapter 11 of the EIA report. This identified likely construction and operational effects as including: sedimentation or pollution of the water environment from surface runoff; compaction of soils; the removal of peat; peat landslide hazard; and effects on groundwater quality and flow regime. Such issues are highlighted in SPP as relevant to the determination of proposals for energy generation projects.

7.2 Sedimentation and/or pollution of watercourses can occur with a peatslide incident (discussed below) or during the construction period if inadequate care is taken. The applicant proposes a 50 metre buffer zone around all on-site water bodies (as could be secured by suggested condition 15 should Ministers be minded to grant planning permission). The construction and operational environmental management plan that could be secured by suggested condition 14 would also ensure that the storage of oil and fuel did not pose a pollution risk and that stockpiles of excavated materials were not located such that sedimentation of watercourses could occur.

7.3 The council's engineering services team requires surface water runoff to be minimised wherever possible and welcomes the proposal to cover the 1319 square metre temporary laydown areas beside each turbine with seeded topsoil. The team noted that the hardstanding areas beside each turbine, at 3600 square metres each, like the access tracks, would generate a considerable amount of runoff during heavy rainfall events. Cable tracks, if poorly designed, could also convey surface water in heavy rainfall events in a manner that could contribute to flooding. If uncontrolled these issues could pose a flood risk to the B9047 from the Burn of Ore. However, as the applicant has confirmed that the "design and construction of a suitable drainage system for the proposed development would follow Sustainable Drainage Systems (SuDS) principles and ensure natural drainage without significant alteration of hydrological regime of the site area", it does not object on this basis.

7.4 The construction and operational environmental management plan in suggested condition 14 would require site drainage works to adhere to SuDS principles. I am satisfied that this would give the planning authority adequate control over this issue to ensure that the risk of flooding to the important B9047 (the only road link between the north west and south east of the island) did not materially increase as a result of this development.

7.5 Compaction of soils due to the construction of permanent roads and by the movement of construction vehicles elsewhere can cause increased surface water run-off and reduce a site's flood storage capacity. However, the EIA report predicts a negligible to low magnitude of change prior to any site-specific mitigation and I find no evidence to challenge that conclusion.

7.6 As is common with the upland environments in which wind farms are typically located, the site is overlain with peat. The depth of this coverage varies across the site between zero coverage and a depth, in places, of over three metres. The proposal would necessitate the removal of peat from the site which has environmental implications in terms of habitat loss (as discussed in Chapter 4 above) and the release of stored carbon.

7.7 LDP Policy 9 E i - Peat and soils confirms that development on areas of peat or carbon-rich soils will only be permitted where: a) it has been clearly demonstrated that there is no viable alternative; b) an acceptance assessment of the likely effects of the development on carbon dioxide emissions has been undertaken and submitted; and c) the

economic and social benefits of the development clearly outweigh any potential detrimental effects on the environment, including likely carbon dioxide emissions.

7.8 SEPA initially objected to the proposal on grounds of the volume of peat that has been estimated as requiring excavation in order to construct the proposed development and the consequent carbon loss implications. Particular concern was expressed over turbines 3 and 4, which are proposed in area of the site where there is relatively deep peat. It indicated that re-siting or omitting turbines 3 and 4 would resolve its concerns or, alternatively omitting one of them from the scheme (probably turbine 4 and its associated spur road) if that could be demonstrated to achieve a substantial reduction in excavated peat.

7.9 Ongoing discussions have taken place between the applicant and SEPA to whether these concerns could be overcome. Techniques such as floated road sections and use of bog mats for temporary lay-down areas have been discussed. The applicant believes the volume of peat requiring extraction identified in the EIA report can be regarded as an extreme worst-case scenario and that a significantly reduced level of extraction is likely to be required in practice. It also believes its proposals compare well in terms of volume of peat removed per megawatt of generating capacity with other approved windfarm developments.

7.10 The applicant submitted an explanation for why turbines 3 and 4, which RSPB Scotland also noted were on deeper peat, could not be moved. The reasons given include ornithological constraints, the need to avoid areas of the site with steeper gradients, and the knock-on effects of re-siting these machines on the positions of others. It also argues that the majority of the site area cannot be considered undisturbed areas of peat, given the evidence of disturbance by cutting, ploughing, and development of wartime structures at the site. The applicant is agreeable to a condition (see suggested condition 14) requiring a peat management plan during the construction process that would avoid or minimise disturbance to peat and peatland habitats.

7.11 SEPA has considered the applicant's arguments and has confirmed that it is willing to withdraw its objection subject to the imposition of certain conditions. Its position remains that the relocation of turbine 4 (which is likely to account for 25% of the total peat excavation) would be a preferable solution. It requests that consideration is given to the possibility of relocating turbine 4 to the north west, which would involve an encroachment into wild land, but it is not insistent upon that.

7.12 The EIA report estimates that carbon payback period, taking account of all sources of carbon including the excavated peat, at between 1.7 and 3.4 years. The applicant argues that, if micro-siting and appropriate construction techniques enable the volume of peat extracted to be minimised, this period would be reduced. OFC comments that a figure of 3 years can be considered poor. The reason for the poor figure for this proposed development is the expected excavation of more than 37,000 cubic metres of peat. It believes that, in future, and by the time that this wind farm is built, the renewables component of grid-mix will have increased and the pay-back time will have increased with it.

7.13 Subject to the developer being required to implement the construction techniques that the applicant has suggested to SEPA, and the peat restoration plan, I am satisfied that the volume of peat that will be required to be removed to facilitate this proposal it has been minimised and that the carbon emission consequences would not be unacceptable. On balance, I believe it has been clearly demonstrated (as is required by LDP Policy 9 E i) that

there is no viable alternative, as the applicant has explained in some detail why it believes the relocation of turbine 4 is not possible. Therefore, compliance overall with Policy 9 E i will depend upon whether the economic and social benefits of the development clearly outweigh any potential detrimental effects on the environment, including likely carbon dioxide emissions. I discuss this in chapter 12.

7.14 A peat slide hazard and risk assessment was undertaken. This identified low and negligible risks at proposed turbine and infrastructure locations across the site. The applicant proposes that low risks would be mitigated through micro-siting and/or targeted geotechnical / engineering controls, to be informed by detailed pre-construction site investigations.

7.15 The assessment was examined in a stage 1 checking report by an independent expert appoint by the Scottish Government. The purpose of this report was to ascertain whether or not adequate and appropriate field survey, peat sampling and analytical methods were employed to provide a sound basis for assessing peat stability and the risk from peat landslides within the development envelope. The checking report found the applicant's peat slide investigations (both desk based and field study) to have been appropriately designed and undertaken. The applicant's proposed mitigation works were also found to be suitably robust and sufficient.

7.16 The council's engineering service team raised concern over peat slide risk to the B9047. It queried the sensitivity scoring given to this road in the applicant's peat failure exposure scoring, given its strategic transport importance for Hoy. The applicant accepts that, in its assessment of peat slide, it applied a consequence score of 3 to this road, which is no different to any other local road. However, its sensitivity testing of this issue reveals no impact on the overall risk assessment of low, even if the highest consequence score of 5 were applied to this road. With this clarification I am satisfied that the risk of peat slide affecting this important road has been adequately assessed and I find no evidence to undermine the applicant's conclusion that risk levels would be low.

7.17 Taking all submissions into account, I am satisfied that the issue of peat slide has been adequately investigated and that the construction and operational environmental management plan that could be secured by suggested condition 14, would ensure appropriate control over this issue.

7.18 Effects on groundwater quality and flow regime revealed no private water supplies within one kilometre of the site. Evidence of potentially moderately groundwater dependant habitats was identified in the EIA report. However, based on the site geology, the EIA report concludes these are likely to be at least partly surface water or rainwater fed.

7.19 The council's environmental policy planner expressed concern that turbine 6 is proposed close to an area of mire with bog pools, which can provide habitat for a number of species including the large red damselfly, which is identified as locally important in the Orkney LBAP. The concern is that excavation of peat to form the turbine foundation, hard standing and access track could lead to dewatering of these pools and loss of habitat. The applicant believes the separation distance of 75 metres and the fact that the pools are more than 10 metres further up the hillside (with peat acting as a barrier to vertical flows) should ensure this effect does not arise. I am satisfied that those conclusions are supported by the evidence.

7.20 Overall, subject to appropriate planning conditions, I conclude that the proposal would have no significant adverse effects on geology, hydrology or hydrogeology. The climate change implications of the proposed level of peat removal would be compensated for by the proposed peat management plan and the carbon-reduction consequences of the proposed six wind turbines.

CHAPTER 8: TRAFFIC AND TRANSPORT

8.1 Traffic and transport effects were reported in Chapter 12 of the EIA report. Operational phase traffic levels would be very low, but during the peak month of the construction phase, it is predicted that there would be up to 46 daily vehicle movements on the site access track and 36 on the B9048. In the context of the very low levels of road traffic on Hoy, this would be a significant increase, although in absolute terms, traffic levels would remain low.

8.2 The council's roads service raised some queries over off-site issues and how these might affect the safe and efficient operation of the roads network.

8.3 It questioned what might be the fall-back alternative if planning permission for off-site peatland restoration and bulk material sourcing (which have formed the basis for the EIA report's assessment of transport and traffic effects) could not be obtained.

8.4 The applicant's response is that the proposed off-site peatland restoration works would be permitted development under Class 20A of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992. This class of permitted development was introduced in April 2021 by the Town and Country Planning (General Permitted Development and Use Classes) (Scotland) Amendment Order 2020. Therefore, while the planning authority would be involved in agreeing the details of the proposed restoration works, there would be no requirement for a formal planning application.

8.5 With regard to stone, the applicant accepts that planning permission is likely to be required to reopen Witter Quarry. However, alternatives to that approach are available and the operation of those would be covered in a construction traffic management plan, which could be secured by a planning condition. In the event the bulk materials required to be brought onto Hoy, this would not involve the ferry so there would be no disruption to existing services.

8.6 The roads service sought clarification that over-run and over-sail areas along the public road access route would be reinstated at the developer's expense, once the turbines had been delivered. The applicant has confirmed this to be the case and that the developer would also be liable for remedying any damage caused to the road by development traffic. Proposed condition 12 would secure these works.

8.7 Overall, I am satisfied that, with appropriate operational control secured via planning conditions, there would be no significant residual effects on traffic or transport.

CHAPTER 9: SOCIO-ECONOMIC, RECREATION AND TOURISM

9.1 Chapter 13 of the EIA report considered socio-economic, recreation and tourism effects. It predicts that, during the construction phase, the proposed development could be expected to support £2.6 million Gross Value Added (GVA) and 39 job years in Orkney and £10.4 million GVA and 161 job years elsewhere in Scotland. The operational (including ongoing maintenance) phase is predicted to have an annual impact of £300,000 GVA and four jobs in Orkney and £500,000 GVA and nine jobs elsewhere in Scotland. In addition, it is predicted that non-domestic rates would contribute around £500,000 to public finances.

9.2 A further (indirect) socio-economic benefit that the applicant considers should be factored into any assessment of this issue is the contribution this proposal would make to the establishment of sufficient generating capacity to justify an interconnector linking Orkney to the Scottish mainland. At present, the two sub-sea cables connecting Orkney to mainland Scotland are at full capacity and the regulator Ofgem has confirmed that, in order to justify investment in upgraded infrastructure, it expects it to be demonstrated by December 2022 that 135 megawatts of additional wind power are capable of proceeding.

9.3 NPF 3 confirms that interconnectors to the Western Isles, Orkney and Shetland and onshore connections for offshore renewables on other parts of the coast are all required to fully realise the potential for diverse and widely distributed renewable energy development.

9.4 For Orkney, Pentland Firth and North Caithness, NPF 3 goes on to recognise that there are unparalleled opportunities for marine renewable energy development – generating significant new business and employment opportunities for the surrounding coastal and island communities. The Pentland Firth and Orkney Waters was designated as Scotland's first Marine Energy Park in July 2012. NPF 3 confirms that Orkney's European Marine Energy Centre is pioneering wave and tidal energy technologies and is the only centre of its kind in the world. Twelve wave and tidal development schemes are being progressed with a total capacity estimated at 1,600 MW on full deployment. Onshore and offshore grid connections, including an Orkney Islands interconnector, will be essential in fully realising this potential.

9.5 The applicant argues (and no party has disputed) that, without the proposal that is the subject of this report, there is no likelihood of the 135 Megawatt target being achieved within the identified timescale. This would mean the additional socio-economic benefit of the additional GVA arising from the interconnector (over and above the project-specific benefits identified above) would not be realised. The value of this would depend upon a number of factors, but is estimated by the EIA report to be between £55 and £476 annually per person in Orkney.

9.6 The EIA report classifies the socio-economic benefits from the application proposal alone as minor (beneficial) at the Orkney level during the construction phase and negligible (beneficial) during that phase when considered Scotland-wide. During the operational phase, benefits both local and national are predicted to be negligible (beneficial).

9.7 If one took account of the benefits of the interconnector being delivered and also accounted for the fact that the applicant is the council, which means the profits of the scheme would remain within and be invested in Orkney, then the EIA report finds a moderate beneficial effect (a significant effect).

9.8 A further potential benefit could arise from the in-combination effect of both this proposal and the Quanterness wind farm (another council proposed scheme) going ahead. It is predicted that this might provide an opportunity for the local supply chain to strengthen and result in larger local impacts, as businesses in Orkney would be able to carry out more works than might be the case for a single project.

9.9 For both developments together, the EIA report estimates a construction phase total of £5.1 million GVA and 77 job years in Orkney and £20.9 million GVA and 321 job years elsewhere in Scotland. During the operational / maintenance phase, the annual cumulative impact could be £600,000 GVA and eight jobs in Orkney and £1.1 million GVA and 17 jobs elsewhere in Scotland. These are assessed as minor beneficial effects, so more important that for this proposed scheme in isolation. However, they would remain non-significant.

9.10 It is often suggested that the adverse landscape and visual effects that typically accompany wind energy proposals, can translate into adverse effects on tourism and recreation. If that were the case, this would clearly reduce any socio-economic benefits that the proposal might otherwise be expected to provide.

9.11 The EIA report included a review of studies into this alleged effect, which found little evidence of a negative correlation between windfarms and the tourist economy. Nevertheless, it carried out an analysis of visitor attractions with in a 15 kilometre radius of the site along with a further two important attractions beyond that study area – Skara Brae and Skaill House. The assessment found that, for all identified attractions, as a result of separation distance and/or the fact that the proposal would not impact upon visitor experience, it would not have an impact on motivation to visit them. As a result, the assessment concluded that there would be a negligible and non-significant effect on visitor attractions.

9.12 The assessment went on to consider effects on popular routes including 14 recreational trails and six core paths within the same 15 kilometre radius study area. The most affected of these would be a section of the Lyness Wartime Trail and Wee Fea Hill path, which passes through the site. Construction phase effects for users of this path are predicted to be minor adverse and non-significant due to use of the path being restricted during the construction process. During the operational phase, the proposed heritage trail (see suggested condition 22) is predicted to have a minor (non-significant) long-term beneficial effect. Other routes were predicted to be affected in terms of their value for tourism or recreation, to only a negligible degree.

9.13 Taking all of the evidence into account, I find no grounds to challenge the findings of the applicant's assessment which were that there would be no significant adverse or positive socio-economic effects during either the construction or operational phases of the proposal. I also agree that, while the direct and indirect positive socio-economic benefits would not be significant, they should be given a small amount of positive weight in the planning balance.

9.14 I agree with the applicant that the benefits of securing the delivery of the interconnector between Orkney and mainland Scotland are material to the assessment of this application. These benefits would be in addition to the effects I have identified above. However, the weight that can be given in the context of this application is limited by the fact that approval of this application would not, in itself, secure the delivery of the interconnector.

CHAPTER 10: AVIATION AND RADAR

10.1 Aviation and radar effects were reported in Chapter 14 of the EIA report. The applicant's investigation of this issue covered effects on both civil and military aviation within a 30 kilometre range for airfields and, for radar installations, to the limit of their range.

10.2 LDP Policy 7 D includes these issues among the list of impacts that require to be assessed with any proposed onshore wind energy development.

10.3 The applicant consulted with the relevant organisations prior to submitting the application, including the Ministry of Defence, Highlands and Islands Airports, Kirkwall Airport and Orkney Islands Council Airfields. None raised any objections.

10.4 Following submission of the application, NATS (en route) plc confirmed it had no safeguarding concerns and the Ministry of Defence raised no objections subject to the turbines being fitted with MOD-accredited aviation safety lighting. (red or infra-red). No objections were received from any other party on aviation or radar grounds.

10.5 Should Ministers be minded to grant planning permission, suggested condition 24 would require the developer to provide precise location details for the turbines to the Ministry of Defence and to fit each machine with appropriate infra-red illumination. As this would not be visible to the human eye, it would have no visual impact implications.

10.6 As there is no evidence to suggest there would be any significant adverse individual or cumulative aviation or radar impact, the proposal meets this requirement of LDP Policy 7 D.

CHAPTER 11: SHADOW FLICKER

11.1 The applicant's assessment of shadow flicker effects was reported in EIA report chapter 15.

11.2 LDP Policy 7 D: Onshore Wind Energy Development does not specifically highlight shadow flicker as an impact to investigate, but it is often a component of a wind energy proposal's potential impact on communities and amenity, which are matters that require to be studied.

11.3 LDP Supplementary Guidance: Energy confirms the potential importance of this issue to communities and amenity effects and sets an indicative separation distance from a dwelling house of 10 times the proposed wind turbine's rotor diameter. Beyond that range, amenity effects from shadow flicker are unlikely, but below it, an applicant is required to demonstrate that the proposal would have no adverse amenity impact.

11.4 SPP includes shadow flicker as one of the considerations that are likely to require assessment with a proposal such as this.

11.5 The Scottish Government's onshore wind turbines online planning advice provides the following description of when shadow flicker may occur:

"[In] *certain combinations of geographical position, time of day and time of year, the sun may pass behind the rotor and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as "shadow flicker". It occurs only within buildings where the flicker appears through a narrow window opening*"

11.6 The potential for such effects to occur depends on a range of factors including the time of day and year, wind (and therefore turbine) direction, the height of the turbine and its blade length, and the separation distance from potentially affected buildings.

11.7 In order to account for the potential that micrositing could reduce the separation between turbines and sensitive receptors, the applicant investigated shadow flicker within a study area of 10 x rotor diameter plus 50 metres. This is a distance of 1.41 kilometres. In accordance with the Update of UK Shadow Flicker Evidence Base report (2011) this was confined to 130 degrees either side of north from each turbine.

11.8 Thirteen receptors (two of which are commercial premises) were identified within the 1.41 kilometre study area. All would be potentially affected by turbine 1 and one (Thurvoe) could potentially be affected also by turbine 2. Thurvoe is also the closest property to a proposed turbine, being approximately 950 metres away. A further property (Ore Burn Cottage) was not assessed as it has been vacant and derelict for over 15 years.

11.9 In the absence of any UK statutory provisions for shadow flicker, the applicant relied upon German quantitative guidance, which sets two maximum shadow flicker limits, above which the effect should be considered significant.

11.10 The first is an astronomic worst-case scenario limit of 30 hours per year or 30 minutes on the worst affected day.

11.11 The second is a realistic scenario (taking account of meteorological parameters) of eight hours per year.

11.12 An assessment against those two standards was made using commercial wind energy software. This can calculate the hours of expected shadow flicker at each receptor using a range of parameters including the size and position of windows in each receptor property, although the applicant assumed that all receptors have a 1 metre by 1 metre window facing directly towards the turbine in order to model a worst-case effect. A series of other worst-case assumptions were made including that the turbine blades were always facing the receptor, were turning 365 days per year with zero cloud cover, no screening between the turbine and the receptor (trees, buildings vegetation, curtains etc.) and the receptor property being occupied 100% of the time. I agree with the applicant that this was a conservative approach.

11.13 When assessed against the worst-case scenario (30 minutes per day or 30 hours per year) one commercial and five residential properties are predicted to experience significant shadow flicker effects.

11.14 Using the realistic scenario, which includes meteorological data, no property is expected to experience shadow flicker for longer than the significance threshold of eight hours per year. The two properties predicted to be worst affected are Little Screws (5.43 hours per year) and Thurvoe (5.39 hours per year).

11.15 So as to further minimise the possibility of shadow flicker posing a material threat to the amenity of any nearby property, the applicant has suggested the use of a Shadow Flicker Protocol. If Ministers were minded to grant planning permission, suggested condition 25 would secure this. It would require the protocol to be agreed in advance by the planning authority, would set out a mechanism for addressing any complaint received from a receptor within the study area, including directly contacting and gaining responses from those affected by shadow flicker, and would set out mitigation and management options, which could include programmed/automated switch off of one or more turbines for specified time periods and in particular climatic conditions.

11.16 The EIA report looked at potential cumulative shadow flicker effect. However, the only nearby turbine (Ore Brae) is more than 10 rotor diameters from any receptor so would not be expected to contribute to any cumulative effect.

11.17 I am satisfied that the applicant's analysis of shadow flicker has been thorough and that its conclusions are justified. Suggested condition 25 would provide an effective means of addressing the unlikely situation where objectionable shadow flicker effects arose. Subject to this, I am satisfied there would be no significant effects and that the proposal would comply with LDP Policy 7 D and the accompanying supplementary guidance.

CHAPTER 12: CONCLUSIONS AND RECOMMENDATION

12.1 In my assessment of the proposal in the preceding chapters I have identified the key development plan policies that must form the starting point in the determination of this planning application. For some of these policies, it was not possible at that stage, to reach a conclusion on the proposal's policy compliance, as it required a judgement to made on the balance between any departure from the policy's expectations and the combined weight of any material benefits that the proposal might deliver. It is only in this concluding chapter when all such benefits can be identified, that the proposals' compliance with each policy, and ultimately the development plan, can be made..

12.2 The LDP's Supplementary Guidance: Energy recognises that energy generation schemes of all kinds are likely to have benefits and disbenefits and that the role of the decision maker is to weigh the two against one another to determine whether the planning balance lies in favour of, or against, the proposal.

12.3 The guidance notes that it is likely that, on the positive side of that equation, considerations will include: net economic benefit; the scale of contribution to renewable energy generation targets; and the effects of the proposal on greenhouse gas emissions.

12.4 When looked at those terms, while the proposal is unlikely to have any adverse economic consequences, its direct and indirect contributions to the Orkney and Scottish economy are not anticipated to be significant due to the modest number of turbines that are proposed. The relatively small scale of the proposal also means its contribution to renewable energy targets and its effects on greenhouse gas emissions would be limited.

12.5 In addition to those generic benefits of renewable energy, this proposal has the potential to assist in the delivery of the Orkney interconnector project, which could deliver more significant benefits to the island's economy. This should be given some positive weight. However, the lack of a direct connection between the approval of this scheme and the delivery of the interconnector means this should also be limited.

12.6 SPP's presumption in favour of development that contributes to sustainable development is also a potential factor in favour of this proposal. However, when assessed against the sustainability principles in paragraph 29 of that document, the adverse effect the proposal would have on natural and cultural heritage undermines the undoubted contribution it would make to climate change mitigation. For those reasons I do not find the proposal to be that which would contribute to sustainable development so this provision should add no additional weight in its favour.

12.7 Finally, on the benefits site of the equation, is the identity of the applicant. Although that is rarely a material consideration when determining a planning application, I believe it is reasonable to attribute some positive weight to the fact that the promoter of this scheme is the local authority, as this should ensure that profits are more likely to be invested locally and therefore have a more noticeable effect than would otherwise be the case.

12.8 Turning to an assessment of each relevant development plan policy in turn, my conclusions are as follows.

12.9 LDP Policy 1: Criteria for All Development is an overarching policy offering support to development proposals that satisfy all of a series of 10 requirements.

12.10 For the reasons I have set out in Chapter 3, I find the proposal would not satisfy the first requirement because I do not believe it has been sited and designed taking into consideration the location and the wider townscape, landscape and coastal character. This is due to what I consider to be the excessive scale of the proposed turbines for this location.

12.11 It would also not fully satisfy the fourth requirement, as the amenity of the surrounding area would not be preserved. However, the adverse impacts on the amenity of adjacent and nearby properties/users that I have identified are not so severe, in my opinion, as to be unacceptable.

12.12 I find the proposal would also fail to satisfy the ninth and tenth requirements of this policy, because it would not protect natural heritage including landscape or (having regard to its effect on the setting of the former naval HQ) Orkney's cultural heritage resources.

12.13 Therefore, the proposal is not supported by LDP Policy 1.

12.14 LDP Policy 7 C: All Renewables and Low Carbon Energy Developments offers support to all such proposals where it has been demonstrated that the proposal would not result in significant adverse effects on known constraints, either individually or cumulatively. As I have set out in previous chapters, the proposal would have a number of significant adverse effects. This means that the proposal is contrary to this policy, although I have borne in mind that the absolute avoidance of significant adverse effects from an onshore wind energy proposal is unlikely to be a realistic aspiration.

12.15 Policy 7 D: Onshore Wind Energy Development again seeks to avoid significant adverse individual or cumulative impacts. As the proposal would have such effects, it does not comply with this policy, but the above-mentioned caveat must also apply. With regard to areas identified in the LDP's wind farm spatial strategy as "Areas of Significant Protection" (as is most of the application site), development proposals are required to comply with the nine development criteria from Supplementary Guidance: Energy and it must be demonstrated by the applicant that any significant effects on the qualities of these areas can be overcome by siting, design or other mitigation.

12.16 For reasons I have set out in previous chapters, the proposal would not comply with all of the development criteria in Supplementary Guidance: Energy. Specifically, I find it would not comply with Development Criterion 2 because it would have a significant adverse effect on landscape character and visual amenity (as described in Chapter 3) that I do not believe could be mitigated satisfactorily. I also find it would not satisfy Development Criterion 4 due to the unacceptable adverse impact I believe it would have on the setting of the former naval HQ building (as described in Chapter 6). If, as the applicant requests, permission were granted on a permanent basis, with no obligation to restore the site at some fixed point in the future, it would also conflict with Development Criterion 9. However, that concern could be addressed by the imposition of a temporary time limit and a decommissioning condition (see suggested conditions 2 and 27 in Appendix 1 to this report).

12.17 As the proposal would not comply with all of the development criteria in the supplementary guidance, it would not comply with Policy 7 D.

12.18 Policy 8: Historic Environment and Cultural Heritage only permits development that would have an adverse impact on the significance of a cultural heritage asset where it can be demonstrated that mitigation measures will be taken to mitigate any loss of significance

and where any loss that cannot be mitigated is outweighed by the social, economic environmental or safety benefits of the proposal. The harmful effect on the significance of the category A listed formal naval HQ building arising from the inappropriate juxtaposition of the nearest turbines and this important building is incapable of mitigation without the deletion, significant relocation or significant reduction in size of the nearest turbines. This is discussed in Chapter 6. This first expectation of the policy is not, therefore, met.

12.19 Turning to the second requirement, I am not convinced that the relatively limited social, economic and environmental benefits I have identified above would outweigh the harm the proposal would cause. An additional benefit, to which Ministers should have regard is the possibility that the future of this important building, which must be in doubt given its "at risk" status and deteriorating condition, could be safeguarded by developer-funded works to the listed building.

12.20 My view is, on balance, that the possibility of such improvements to the building added to the other benefits of the proposal does not outweigh the harm that would be caused to its significance. However, the contrary view would not be illogical and if, having had special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses, Ministers are minded to grant planning permission, suggested condition 28 could require the developer to submit for approval and subsequently carry out, a programme of works aimed at improving this building's future prospects and its contribution to an observer's understanding, appreciation and experience.

12.21 I am satisfied that the requirements of Part A of LDP Policy 9: Natural Heritage and Landscape would be met in respect of internationally designated sites, as I believe the Appropriate Assessment that Ministers must undertake will ascertain that the proposal would not adversely affect the objectives of the designation or the integrity of any such site. I am of the same opinion in relation to the Hoy SSSI and the LNCS.

12.22 Policy 9 B deals with protected species and 9 C with wider biodiversity and geodiversity. For the reasons set out in Chapter 4, I am satisfied that, while there would be some harm to protected species and important habitats (in some cases significant), subject to appropriate conditions, these requirements of this policy would, on balance, be met.

12.23 I find no evidence to suggest that the proposal would not meet the expectations of Policy 9 D: The Water Environment, or, subject to conditions, those of Part E: Peat and Soils, despite the presence of deep peat in the vicinity of turbines 3 and 4. The scarcity of tree cover on the site means the requirements of Part F: Trees and Woodland would be met.

12.24 In contrast, I find the proposal to be in conflict with Policy 9 G: Landscape due to its failure to minimise negative impacts on landscape and seascape character. These concerns also extend to the Hoy Wild Land Area because there would be significant effects on the qualities of the WLA that could not be substantially overcome by siting, design or other mitigation. However, I believe effects on the National Scenic Area would not conflict with Policy 9 G iii.

12.25 I have no concerns with Policy 10: Green Infrastructure, Policy 13: Flood Risk, SuDS and Waste Water Drainage or Policy 14: Transport, Travel and Road Network Infrastructure.

12.26 The proposal complies with a number of development plan policies but does not comply with several others. The significance of the policy conflict is sufficient in my view for it to be concluded that the proposal does not, overall, comply with the development plan.

12.27 Planning permission should not, therefore, be granted unless material considerations indicate otherwise. These include the contribution the proposal would make to climate change mitigation, to the transition to a low-carbon energy economy and the net economic benefit and associated social benefits this would bring. Following the national and local declarations of a climate emergency, these importance of these considerations must not be underestimated.

12.28 My view, having regard to all of the evidence, is that the material considerations in favour of this proposal to not overcome its clear conflict with the development plan. Consequently I recommend that planning permission is refused for the reasons I have set out in this report.

12.29 Should Ministers take the contrary view, I would recommend that, following the completion of an Appropriate Assessment, any planning permission granted should be subject to the 29 conditions I have set out in Appendix 1.

David Buylla
Principal Reporter

APPENDIX 1: SCHEDULE OF SUGGESTED CONDITIONS

1) Commencement

This planning permission shall lapse on the expiration of a period of ten years from the date of this decision unless the development has been started within that period, unless otherwise approved in writing with the Planning Authority.

(Reason – to allow for the possibility that grid connection may not be possible until after 2025.)

2) Duration of permission

The planning permission is for a period of 25 years from the First Export Date. Written confirmation of The First Export Date shall be provided to the Planning Authority and Scottish Ministers no later than one calendar month after the event. Upon the expiration of a period of 25 years from Final Commissioning, the wind turbines shall be decommissioned and removed from the site, with decommissioning and restoration works undertaken in accordance with the terms of condition 27 of this permission.

(Reason: to define the duration of the consent and to ensure the development is decommissioned and the site restored at the expiry of the permission.)

3) Health and Safety or Environmental Obligations

In the event of a serious breach of health and safety or environmental obligations relating to the development during the period of this permission, written notification of the nature and timing of the incident to Scottish Ministers and the Planning Authority, including confirmation of remedial measures taken and/ or to be taken to rectify the breach, shall be submitted within 24 hours of the incident occurring.

(Reason: in the interests of health and safety and environmental protection.)

4) EIA Report

The development shall be implemented in full and strict accordance with the plans and mitigation measures included within the EIA Report, and supplementary documents, unless otherwise approved in writing with the planning authority or unless otherwise required or approved in relation to conditions attached to this permission, noting that the height of the hub and length of the blades may alter, but the tip height will not exceed 149.9 metres.

(Reason: to ensure the environmental effects of the development are effectively managed and mitigated.)

5) Redundant Turbines

The wind farm operator shall, at all times after the First Export Date, record information regarding the monthly supply of electricity from the site and electricity generated by each individual turbine within the development and retain the information for a period of at least 12 months. The information shall be made available to the Planning Authority within one month of any request by them. In the event that any wind turbine installed and

commissioned fails to supply electricity on a commercial basis for a continuous period of 12 months, then unless otherwise agreed with the Planning Authority, the wind turbine, along with any ancillary equipment, fixtures and fittings not required in connection with retained turbines, shall, within 3 months of the end of the said continuous 12 month period, be dismantled and removed from the site and the surrounding land fully reinstated in accordance with this condition. For the avoidance of doubt, in making a direction under this condition, the Planning Authority shall have due regard to the circumstances surrounding the failure to generate and shall only do so following discussion with the wind farm operator and such other parties as they consider appropriate.

All decommissioning and reinstatement work required by this condition shall be carried out in accordance with a decommissioning, restoration and aftercare strategy which must be approved in advance in writing by the Planning Authority.

(Reason: to ensure appropriate provision is made for any turbine(s) requiring repair or decommissioning.)

6) Design of Wind Turbines

Prior to the erection of the first turbine, full details of the proposed wind turbines (including, but not limited to, the power rating, size, type, external finish and colour), any anemometry masts and all associated apparatus shall be submitted to and approved in writing by the planning authority. The blade tip height of the turbines shall not exceed 149.5 metres above ground level. The development shall be constructed and operated in accordance with the approved details and maintained in the approved colour, free from external rust, staining or discolouration, until such time as the wind farm is decommissioned. All wind turbine blades shall rotate in the same direction.

(Reason: in the interests of visual amenity.)

7) Signage

Notwithstanding the provisions of the Town and Country Planning (Control of Advertisements) (Scotland) Regulations 1984 (as amended), and unless there is a demonstrable health and safety or operational reason, none of the wind turbines substation buildings/enclosures or above ground fixed plant shall display any name, logo, sign or other advertisement without express advertisement consent having been granted on application to the Planning Authority.

(Reason: in the interests of visual amenity.)

8) Design of Substation and Ancillary Development

Prior to the construction of the sub-station building, full details of the external appearance, dimensions, surface materials, associated compounds, any construction compound boundary fencing, external lighting, landscaping and parking areas shall be submitted to and approved in writing by the Planning Authority. The substation building, associated compounds, fencing, external lighting and parking areas shall be constructed in accordance with the approved details.

(Reason: in the interests of visual amenity.)

9) Construction Hours

Hours of construction work on site involving the use of machinery and powered tools, or any other operation that would audible from any noise-sensitive receptor, and all HGV movements to and from the site, shall only take place between the hours of 08:00 and 18:00 Mondays to Fridays, 08:00 to 12:30 on Saturdays and not at all on Sundays or bank holidays, unless otherwise agreed, in writing, with the Planning Authority. Outwith these specified hours, development on the site shall be limited to maintenance, emergency works, dust suppression, and the testing of plant and equipment, unless otherwise approved in advance in writing by the Planning Authority.

(Reason: in the interests of residential amenity.)

10) Construction Traffic Management Plan

Prior to the commencement of construction activities at the development, a Construction Traffic Management Plan (CTMP) shall be submitted to and approved in writing by the planning authority. The CTMP shall include:

a) agreed routes for the delivery of construction materials associated with the development on the local road network;

b) measures to ensure that the specified routes are adhered to, including monitoring procedures;

c) details of all road signage and associated traffic management measures to be installed at the site access junction;

d) a detailed construction programme;

e) details of the loads (number of loads and type of vehicle) associated with each month of construction and their routes to site;

f) details of the measures to be provided to ensure that the public road is kept free of mud and debris;

g) details of the safety induction to be provided for all staff working at the site;

h) a protocol for working with local businesses to ensure the construction traffic does not adversely interfere with deliveries or normal business traffic;

i) a description of a construction liaison committee to provide a conduit between the community and the developer to address any transport matters that may arise; and

j) details of a staff transport and travel arrangement plan to reduce vehicle trips associated with the construction phase of the development.

Once approved, the CTMP shall be operated as approved.

(Reason: in the interests of road safety).

11) Abnormal Loads

No less than three months prior to the delivery of turbine components, a Route Access Report for all abnormal load movements (vehicles over 44 tonnes GVW or width greater than 2.9 metres or length greater than 18.3 metres) shall be submitted for the written agreement of the Planning Authority. The following details shall be submitted within the report:

a) details of the proposed vehicles delivering the loads, including weights and general dimensions;

b) details of any road widening, temporary traffic measures and signage or removal of street furniture or vegetation required to enable delivery. Where necessary, these should be informed by swept path assessments;

c) proposals for trial runs to be undertaken prior to deliveries being made;

d) proposed traffic safety measures to be adopted for all abnormal load movements including confirmation of police escorting at all times on the public road;

e) details of how local stakeholders and residents will be advised of deliveries;

f) a liaison plan with emergency services; and

g) a timetable for proposed deliveries.

Once agreed the developer shall undertake abnormal road movements and associated works in accordance with the agreed details and shall provide one month advance notice of the exact movement dates to the Planning Authority.

(Reason: in the interests of road safety.)

12) Road Condition

A photographic road condition survey shall be carried out jointly with the developer's representative and the planning authority, both prior to works commencing and again upon completion of work on the hereby approved development on the existing road infrastructure that will be used by to access and egress the development site. The applicant shall be responsible for funding the cost of any repairs following damage to the public road which is solely attributed to this development which may have been caused by any vehicles or plant accessing or egressing the development site. Any works identified in the post construction survey that are attributable to construction activities shall be undertaken to the satisfaction of the Planning Authority within three months of completion of the development.

The developer shall also be responsible for mitigating any damage caused to the public road by vehicles and plant accessing and egressing the development site, in such a manner that the road always remains safe for other road users and until permanent repair works are agreed and carried out.

Any over-run or over-sail areas on the route to the site that required physical works to be carried out within the road boundary to facilitate access by abnormal loads shall be reinstated to the satisfaction of the Planning Authority within three months of completion of the development.

(Reason: in the interests of road safety.)

13) Port Management Plan

No less than six months prior to the delivery of turbine components to Orkney, a Port Management Plan (PMP) shall be submitted to and approved in writing by the planning authority. The PMP shall include:

a) the proposed timescales for turbine component deliveries to be made;

b) outline and agree quay space and temporary storage areas with Marine Services;

c) outline and agree crane and stevedore access arrangements;

d) confirm and book quay space;

e) detail the vessels that will undertake the deliveries; and

f) agree access rights along the access road from the pier and the convoy management with Orkney Islands Council, Marine Services and Police

Once approved, the PMP shall be operated as approved.

(Reason: to minimise port disruption and in the interests of public safety.)

14) Construction and Operational Environmental Management Plan

No development shall commence unless a Construction and Operational Environmental Management Plan (COEMP) outlining site specific details of all on-site construction works, post-construction reinstatement, drainage and mitigation, operational environmental monitoring, together with details of their timetabling, has been submitted to, and approved in writing by, the Planning Authority in consultation with NatureScot and SEPA. The COEMP shall include (but shall not be limited to):

- A site waste management plan (dealing with all aspects of waste produced during the construction period other than peat), including details of contingency planning in the event of accidental release of materials which could cause harm to the environment.

- Details of the formation of the construction compound, welfare facilities, any areas of hardstanding, turning areas, internal access tracks, car parking, material stockpiles, oil storage, lighting columns, and any construction compound boundary fencing.

- A construction dust management plan.

- A construction noise management plan.

- Details of measures to be taken to prevent loose or deleterious material being deposited on the local road network including wheel cleaning and lorry sheeting facilities, and measures to clean the site entrances and the adjacent local road network.

- A pollution prevention and control method statement, including arrangements for the storage and management of oil and fuel on the site.

- Details of soil storage and management.

- A drainage management strategy, which accords with SuDS principles, demonstrating how all surface and waste water arising during and after development will be managed and prevented from polluting any watercourses or sources.

- A detailed peat management plan, to include details of all peat stripping, excavation, storage and reuse of material in accordance with best practice advice published by NatureScot and SEPA.

- Details of sewage disposal and treatment.

- Details of temporary site illumination.

- Details of the construction of the access into the site and the creation and maintenance of associated visibility splays.

- Details of provision of wheel washing facilities.

- The method of construction of the crane pads.

- The method of construction of the turbine foundations.

- The method of working cable trenches.

- The method of construction and erection of the wind turbines and meteorological mast.

- Details of watercourse crossings.

- A Habitat Protection Plan to ensure that, during the construction phase, habitat not required to be directly affected by the approved development is protected from indirect effects.

- Details of post-construction restoration/reinstatement of the working areas not required during the operation of the development.

- The method of restoration of the borrow pit.

- Details of ornithological monitoring to be undertaken during the operational phase, and how the data from this monitoring will be made available to inform future development in Orkney.

(Reason: to ensure a satisfactory level of environmental protection during construction and operation.)

15) Protection of the Water Environment

The developer will ensure that the 50 metre buffers around all water bodies are maintained and that all new infrastructure (with the exception of any proposed watercourse crossings and directly related tracks) occurs outwith the 50 metre buffer area from water features on site unless adequate justification is provided and it is agreed in writing with the Planning Authority.

(Reason: to protect the water environment.)

16) Environmental Clerk of Works

No development shall commence until an Ecological Clerk of Works (ECoW) has been appointed and the identity and terms of appointment of the ECoW has been submitted to and agreed in writing by the Planning Authority. The ECoW shall be employed for the period of wind farm construction, including site preparation, micro-siting and post-construction restoration.

(Reason: to protect ecological interests.)

17) Micro-siting

That the wind turbines, crane pads, tracks, substation compound, and meteorological mast locations shall not be erected in any position other than the positions shown in the EIA Report, unless approved by the Ecological Clerk of Works. Any such variation (micro-siting) shall not exceed 50 metres in any direction from the locations of those elements shown in the EIA Report. Should micro-siting be required, the turbine locations will not be moved within the accepted telecommunications buffer (75 metres clearance from the blade tip) unless otherwise agreed with BT. In addition, the separation distance to the closest residential property (Thurvoe) will not be reduced.

(Reason: to enable necessary minor adjustments to the position of the wind turbines and other infrastructure to allow for site-specific conditions whilst safeguarding existing telecommunications infrastructure and residential property.)

18) Habitat Management Plan

Prior to the commencement of development a detailed Habitat Management Plan shall be submitted to and approved in writing by the Planning Authority. The plan shall thereafter be implemented in full.

(Reason: in the interests of nature conservation.)

19) Species Protection Plan

No development shall commence until a construction Species Protection Plan for otter is submitted to, and approved in writing by, the Planning Authority. The development shall thereafter be delivered in accordance with the approved plan.

(Reason: in the interests of nature conservation.)

20) Protection of Breeding Birds

No ground works (site clearance and stripping of vegetation) or construction works will be undertaken during the bird breeding season (April to August inclusive) unless previously agreed in writing by the Planning Authority. If an application is made to the Planning Authority to undertake such works during the bird breeding season, then the ECoW or another suitably qualified surveyor will carry out pre-construction breeding bird surveys prior to commencement of works, to locate active nests and to inform how works can best be progressed to avoid disturbance. Any active nests will be cordoned off to a suitable distance (agreed in consultation with NatureScot) and construction operations delayed within the cordon until the young have successfully fledged or breeding had failed. The ECoW will carry out a watching brief during works

During the breeding season (April to August inclusive), construction will not take place along the section of access track between T4, T5 and T6, nor installation of the turbine at T5, before 15th May. Construction may only commence within the aforementioned areas from 15th May onwards if pre-construction surveys by the ECoW or another suitably qualified surveyor indicate that the closest red-throated diver lochan is not occupied. If the lochan is occupied, construction of the aforementioned infrastructure will commence only after the breeding attempt is completed (young fledged) or has failed, or if no eggs are laid by 15th July.

During the breeding season (April to August inclusive) construction will not take place along the section of access track between T2 and T4 nor installation of the turbines at T3 and T4 before 15th May. Construction may only commence within the aforementioned areas from 15th May onwards if pre-construction surveys by the ECoW or another suitably qualified surveyor indicate that there is no occupied hen harrier nest site within 500 m. If nests are found within 500 m, construction of the aforementioned infrastructure will commence only after the breeding attempt is completed (young fledged) or has failed. Works may commence from 15th May if there are nests at 500 m – 750 m, but these nests will be monitored by the ECoW and the works would cease if disturbance was observed.

During the breeding season (April to August inclusive) construction will not take place along the section of access track between T2 and T4 nor installation of the turbines at T3 and T4 before 15th May. Construction may only commence within the aforementioned areas from 15th May onwards and only if pre-construction surveys by the ECoW or another suitably qualified surveyor indicate that there is no occupied short-eared owl site within 300 m. If an occupied site is found within 300 m, construction of the aforementioned infrastructure will commence only after the breeding attempt is completed (young fledged) or has failed. Works may commence from 15th May if there are occupied sites at 300 m – 500 m, but these sites will be monitored, and the works would cease if disturbance was observed.

(Reason: in the interests of nature conservation.)

21) Written Scheme of Archaeological Investigation

No development shall commence until a Written Scheme of Investigation (WSI) is submitted to, and approved in writing by, the Planning Authority. The WSI will set out watching brief mitigation works and will make provision for sampling of peat deposits that may contain paleoenvironmental remains. The development shall thereafter be delivered in accordance with the approved plan.

(Reason: to protect and/or record features of archaeological importance.)

22) Heritage Trail

No development shall commence until a plan is submitted to, and approved in writing by, the Planning Authority for the establishment of a way marked Heritage Trail within the site which will improve physical access to the Second World War heritage remains and will direct visitors from the Command Bunker to the selected heritage assets on Wea Fea. The Heritage Trail shall thereafter be delivered in accordance with the approved plan.

(Reason: to contribute towards compensating for the harm to the setting of these heritage assets.)

23) Recreation and Access Plan

No development shall commence until a Recreation and Access Plan for the construction and operation phases of the wind farm has been submitted to, and approved in writing by, the Planning Authority, including temporary diversion of Core Path H7, new infrastructure and upgrades to Core Path H7 within the site, and how that would be maintained in perpetuity. Thereafter the plan shall be implemented in full.

(Reason: to ensure that satisfactory public access is maintained.)

24) Aviation

No development in respect of this planning permission shall take place unless and until the developer has provided written confirmation to the Ministry of Defence the anticipated date of commencement and completion of construction; the maximum height above ground level of the construction equipment and the position of each wind turbine in latitude and longitude. At the same time, the developer shall confirm to the Planning Authority that this has been undertaken.

(Reason: in the interests of aviation safety.)

25) Shadow Flicker

No development shall commence unless and until a Shadow Flicker Protocol has been submitted to, and approved in writing by, the Planning Authority. The Shadow Flicker Protocol shall set out a protocol for addressing any complaint received from a residential receptor within the study area defined in Chapter 15 of the EIA Report, and will set out mitigation and management options. Operation of the turbines shall take place in accordance with the approved Shadow Flicker Protocol and any mitigation measures that have been approved through the protocol shall be implemented.

(Reason: in the interests of residential amenity.)

26) Noise (relating to Operation Phase)

The rating level of noise immissions from the combined effects any wind turbine or turbines lawfully developed under planning application 20/313/TPPMAJ as described in the conditions below (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes, shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:

a) The wind farm operator shall, for turbines which are under its control, continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Planning Authority on its request, within 14 days of receipt in writing of such a request.

b) No electricity shall be exported until the wind farm operator has submitted to the Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Planning Authority.

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

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

e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the Planning Authority for written

approval proposed noise limits selected from those listed in the Tables to be adopted at the complainant's dwelling for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables specified for a listed location which the independent consultant considers as being likely to experience the most similar background noise environment to that experienced at the complainant's dwelling. The rating level of noise immissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Planning Authority for the complainant's dwelling.

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

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

h) In the event that the developer claims that one or more noise sensitive receptors are subject to a direct financial involvement in the development approved under this application, and therefore the noise sensitive receptor should be subject to the higher noise limits for such financially involved noise sensitive receptors as described in ETSU-R-97 The Assessment and Rating of Noise from Wind Farms, the developer shall provide evidence of such financial involvement for the approval of the Planning Authority and thereafter shall provide evidence of the ongoing nature of the financial involvement within 21 days of a written request from the Planning Authority.

(Reason: to avoid unacceptable noise effects in the interests of residential amenity.)

Noise limits from any lawfully developed turbines under application 20/313/TPPMAJ

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

DAYTIME - DERIVED RESIDUAL NOISE LIMITS Derived limit, assuming "cautious prediction" (+2 dB added to existing levels) / 10 dB below overall limit where no headroom available	NSR ID	Wind Speed m/s									Notes
		4	5	6	7	8	9	10	11	12	
		Level, dBL_{A90}									
Rysa Mill	NSR1	39.9	39.9	39.9	39.9	39.9	39.9	39.9	41.2	42.4	Limit derived using available headroom across full range of wind speeds
The Noddle	NSR2	39.9	39.9	39.9	39.9	39.9	39.9	39.9	41.2	42.4	
Scews	NSR3	39.9	39.9	39.9	39.9	39.8	39.8	39.8	41.1	42.3	
Little Scews	NSR4	39.8	39.8	39.8	39.8	39.8	39.7	39.7	41.1	42.3	
Summer Cleary	NSR5	39.8	39.8	39.8	39.8	39.8	39.7	39.7	41.1	42.3	
Moorlands	NSR6	39.6	39.6	39.6	39.6	39.5	39.3	39.3	40.8	42.1	
Thurvoe	NSR7	39.5	39.5	39.5	39.5	39.4	39.2	39.2	40.7	42.0	
Haybrake Farm	NSR8	39.7	39.7	39.7	39.7	39.6	39.5	39.5	40.9	42.1	
Treetops bungalow	NSR9	39.7	39.7	39.7	39.7	39.6	39.5	39.4	40.9	42.1	
Lyness Hotel	NSR10	39.6	39.6	39.6	39.6	39.5	39.4	39.4	40.8	42.1	
Unknown property	NSR11	39.6	39.6	39.6	39.6	39.5	39.4	39.4	40.8	42.1	
2 Chalet	NSR12	39.5	39.5	39.5	39.5	39.3	39.1	39.1	40.7	42.0	
1 Chalet	NSR13	39.4	39.4	39.4	39.4	39.3	39.1	39.1	40.6	41.9	
Ore Farm	NSR14	37.0	37.0	37.0	37.0	37.0	37.0	40.0	44.4	47.7	
Halla	NSR15	39.1	39.1	39.0	38.9	38.3	37.6	40.0	44.4	47.7	
Old Kirk	NSR16	39.2	39.2	39.1	39.0	38.4	37.8	40.1	44.4	47.7	
Old School House	NSR17	39.3	39.3	39.2	39.1	38.6	38.1	40.3	44.5	47.8	
North Walls Schoolhouse	NSR18	39.4	39.3	39.2	39.1	38.6	38.0	40.2	44.4	47.8	
Dunfarmin	NSR19	39.8	39.8	39.8	39.8	39.7	39.6	40.5	43.6	46.5	
Upper Seatter	NSR20	39.8	39.8	39.8	39.8	39.7	39.7	40.5	43.6	46.5	

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

NIGHT-TIME - DERIVED RESIDUAL NOISE LIMITS		Wind Speed									Notes
		4	5	6	7	8	9	10	11	12	
Derived limit, assuming "cautious prediction" (+2 dB added to existing levels)	NSR ID	Level, dBL_{A90}									
Rysa Mill	NSR1	43.0	43.0	43.0	43.0	43.0	42.9	42.9	42.9	42.9	Limit derived using available headroom across full range of wind speeds
The Noddle	NSR2	43.0	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	
Scews	NSR3	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	
Little Scews	NSR4	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	
Summer Cleary	NSR5	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	
Moorlands	NSR6	42.8	42.8	42.8	42.8	42.7	42.7	42.7	42.7	42.7	
Thurvoe	NSR7	42.8	42.8	42.8	42.8	42.7	42.6	42.6	42.6	42.6	
Haybrake Farm	NSR8	42.8	42.8	42.8	42.8	42.8	42.7	42.7	42.7	42.7	
Treetops bungalow	NSR9	42.8	42.8	42.8	42.8	42.8	42.7	42.7	42.7	42.7	
Lyness Hotel	NSR10	42.8	42.8	42.8	42.8	42.8	42.7	42.7	42.7	42.7	
Unknown property	NSR11	42.8	42.8	42.8	42.8	42.8	42.7	42.7	42.7	42.7	
2 Chalet	NSR12	42.7	42.7	42.7	42.7	42.7	42.6	42.6	42.6	42.6	
1 Chalet	NSR13	42.7	42.7	42.7	42.7	42.6	42.6	42.6	42.6	42.6	
Ore Farm	NSR14	41.7	41.7	41.7	41.7	41.7	41.7	41.8	45.8	48.9	
Halla	NSR15	42.6	42.6	42.5	42.5	42.3	42.0	41.8	45.8	48.9	
Old Kirk	NSR16	42.6	42.6	42.6	42.5	42.3	42.0	41.8	45.8	48.9	
Old School House	NSR17	42.7	42.6	42.6	42.6	42.4	42.1	42.0	45.9	48.9	
North Walls Schoolhouse	NSR18	42.7	42.7	42.6	42.6	42.4	42.1	41.9	45.8	48.9	
Dunfarmin	NSR19	42.9	42.9	42.9	42.9	42.9	42.8	42.8	44.7	47.2	
Upper Seatter	NSR20	42.9	42.9	42.9	42.9	42.9	42.8	42.8	44.7	47.2	

In the event that the developer provides evidence to the satisfaction of the Planning Authority under condition h) above that the Occupier(s) of any other addresses subject to the above noise limits has an ongoing direct financial involvement in the development approved under this planning application then the overall noise limit applicable at such properties may be 45.0 dBLA90,10minutes, or the background + 5 dB, whichever is the higher, accounting for contribution of cumulative turbines existing or consented prior to the consent of the development.

Table 3 - Coordinate locations of the properties listed in Tables 1 and 2.

Property	Easting	Northing
Rysa Mill	329970	995448
The Noddle	330004	995375
Scews	330022	995111
Little Scews	330045	994879
Summery Cleary	330333	994894
Moorlands	330076	994491
Thurvoe	330039	994439
Haybrake Fm	330482	994495
Treetops bungalow	330408	994509
Lyness Hotel	330407	994458
Unknown property	330511	994410
2 Chalet	330423	994320
1 Chalet	330416	994290
Ore Farm	330452	993546
Halla	330664	992954
Old kirk	330662	992893
Old School House	330660	992847
North Walls Schoolhouse	330698	992818
Dunfarmin	330746	992273
Upper Seatter	329810	992062

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

Guidance notes for noise conditions

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

Guidance note 1

(a) Values of the LA90,10-minute noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free

field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The LA90,10-minute measurements should be synchronised with measurements of the 10- minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

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

(e) Data provided to the Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format. Other data formats may be agreed with the Planning Authority, as appropriate.

Guidance note 2

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

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

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90,10-minute noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by

the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

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

(b) For each 10-minute interval for which LA90,10-minute data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2-minute periods should be spaced at 10-minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2- minute period out of the affected overall 10-minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSUR- 97, shall be reported.

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

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

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

(f) The tonal penalty is derived from the margin above audibility of the tone according to the figure 17 on page 104 of ETSU-R-97 (The Assessment and Rating of noise from Wind Farms).

Guidance Note 4

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

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

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

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

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

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

$$L_1 = 10 \log\left[10^{L_2/10} - 10^{L_3/10}\right]$$

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

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

<u>27) Decommissioning, Restoration and Aftercare Plan</u>

No later than three years prior to decommissioning of the development, a detailed decommissioning, restoration and aftercare plan including full details of funding arrangements, shall be submitted to the Planning Authority for written approval. The detailed decommissioning, restoration and aftercare plan will provide detailed proposals for the removal of the development, the treatment of ground surfaces, the management and timing of the works and environmental management.

(Reason: to ensure that the site is appropriately decommissioned and restored after the expiry of the planning permission.)

<u>28) Maintenance, enhancement and Interpretation of the Formal Naval Headquarters Building</u>

Prior to the first turbine being erected on site, a plan for the maintenance, enhancement and interpretation of the former naval headquarters building on Wee Fea shall be submitted to and approved in writing by the planning authority. The plan shall detail measures to be carried out by the developer to ensure the long-term future of this listed building and to provide better public access to and/or interpretation of it. Once approved, the plan shall be implemented in full.

(Reason: to secure the future prospects of this nationally important building improve and its contribution to an observer's understanding, appreciation and experience in mitigation for the effects of the approved development.)

29) Dragonfly pools creation

Prior to the first turbine being erected on site a plan shall be submitted to and approved in writing by the planning authority providing details of dragonfly pools, to be created by the developer in order to provide new dragonfly habitat and replacement habitat for any pools that are destroyed as part of the approved development. Larvae from any destroyed pools shall be relocated to the new pools in order to maintain the population. In order to promote better public access to any understanding of the dragonfly and damselfly species that inhabit the application site, this pool creation project should incorporate boardwalk access. Once the details of the project have been approved by the planning authority they shall be completed in accordance with the approved details prior to erection of the sixth turbine on the site.

(Reason: to recognise the site's importance to dragonfly and damselfly).

APPENDIX 2: OPPORTUNITIES FOR PUBLIC PARTICIPATION

The following opportunities were provided for public participation, both prior to the submission of the application for planning permission and during its processing.

- Pre-application consultation was undertaken, as detailed in a pre-application consultation report of September 2020. This provided details of the various meetings, correspondence, virtual exhibition, online availability of information, and other discussions which have taken place with the community and consultees. Procedures were affected by the Covid 19 pandemic preventing an in-person public exhibition but information was made available online and, on 28 May 2020, a live, interactive web-based consultation event took place. This was publicised in advance via a press release and public notices. The applicant's team were also contactable by telephone, Skype and email.

- Upon submission of the planning application, due to the application having been called-in by Ministers before the planning authority had started the publicity process for the planning application and accompanying EIA report, this work was carried out by DPEA. This included making all application and EIA documents, representations and consultation responses available online, placing public notices in the local press and Edinburgh Gazette and writing to consultees and local residents.