The Highland Council

Agenda Item	**6.1**
Report No	**PLN/007/16**

North Planning Applications Committee
12 January 2016

15/02598/S36: SSE Generation Ltd
Gordonbush Wind Farm, Ascoile, Strath Brora, by Brora, Highland.

SUMMARY

Description: Gordonbush Wind Farm - Extension comprising 16 additional turbines.

Recommendation: Raise no Objection - subject to agreed amendments.

Ward: 05 - East Sutherland and Edderton.

Development Category: Section 36 Development.

1. PROPOSED DEVELOPMENT

1.1 The application is for an extension to the Gordonbush wind farm in Strath Brora. The proposal is for 16 additional wind turbines with an output capacity of 56MW and associated infrastructure. It has been submitted to the Scottish Government under Section 36 of the Electricity Act 1989. Should Ministers approve the development, it will carry with it deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997. The Council is a consultee to this application.

1.2 The application includes the following key elements: -

- 16 wind turbines in total comprising:
  - 13 wind turbines at up to 130m tip height; and
  - 3 wind turbines at up to 115m tip height;
- crane hardstanding area by each wind turbine location;
- one permanent meteorological mast at up to 90m in height;
- an operations building with parking for operational and maintenance staff;
- on site access tracks (of which approximately 8km are new access tracks and approximately 11km are existing tracks, where upgrades may be undertaken to facilitate delivery of the wind turbine components);
- underground cabling to connect each wind turbine to the existing on-site substation; and
- modifications to the existing on-site control building and grid substation..

1.3 In addition to the above the construction phase would comprise the following temporary elements: -

- Concrete batching plant;
- Telecommunications infrastructure;
- Meteorological mast;
- Construction compound and storage area;
- Working of two previously used borrow pits.

1.4 The turbines have an operational life of 25 years after which time they will be decommissioned, dismantled and the site restored. A degree of site restoration will be undertaken following the initial construction for example, within borrow pits; temporary construction areas; etc. Construction is estimated to take 13 months, but this is dependent upon the seasons / weather. A request has been made for a 50m micro-siting allowance to avoid pockets of deep peat, subject to no other constraint buffers / protection areas requiring constraint. The project will be developed in a manner consistent with an approved finalised Construction Environmental Management Plan / Document, draft elements of which have been set out within the Environmental Statement (ES).

1.5 The turbine parts, categorised as abnormal loads, are expected to arrive from Invergordon to the north end of Brora on the A9(T) road, then across the Clynelish distillery road to the C6 Strath Brora road. Dependent on the final wind turbine procured for this project, additional works to accommodate abnormal loads along the delivery route may require: -

- Widening of the A9 / Clynelish distillery junction at the Old School House;
- Localised widening along the unclassified road past Clynelish distillery and C6 Strathbrora road; and
- Structural modifications to or replacement of existing bridge structures to allow passage of turbine components.

1.6 The application is supported by an Environmental Statement (ES), based on a "Scoping Opinion" by the Energy Consent Unit. This includes a package of visualisations.

2. SITE DESCRIPTION

2.1 The development is on Gordonbush Estate, approximately 9.5km to the north-west of Brora. It sits to the immediate south-west of the Gordonbush wind farm, which became operational in June 2012. The existing wind farm comprises a total of 35 turbines, all with a maximum blade tip height at 110m.

2.2 The site consists of a single slope of moorland that falls from approximately 330m AOD in the north-east to a low point of around 150m AOD in the south-west. All sides of the site other than the west are surrounded by higher landform. To the west and south-west, the slope of the site continues to fall into the valley of the Allt a' Mhuilinn before rising gently again into a series of cnocans. Immediately to the west of the site, east of the Allt a' Mhuilinn, is a 275kV transmission line which runs north-south through the northern part of the study area. There are several

small forestry blocks on the lower ground around the southern part of the site. To the south-west is further land used for forestry, of which part has recently been felled in accordance with the Gordonbush Wind Farm / Estate Habitat Management Plan (HMP).

2.3 To the south of the site is Strath Brora which contains Loch Brora and the minor road that links Brora to Rogart. There is scattered settlement within the strath, largely to the north of the road, loch and river. Agriculture, forestry and tourism are key sectors important to the economy in this locality. Popular tourist and recreation activities in the area include walking, cycling and fishing.

2.4 The site and surrounding area is split into 2 catchments; Allt a' Mhuilinn catchment (drains to the west) and Allt Smeorail catchment (drains to the east), both tributaries of the River Brora. This river is recognised for salmon interests. There are a number of potential high and moderate ground water dependent terrestrial ecosystems (GWDTE) identified within the site boundary. Investigation has identified that the majority of these habitats are sustained by surface rainfall-runoff rather than groundwater.

2.5 Two statutorily designated sites lie within 5km of the development, Coir' an Eoin Site of Special Scientific Interest (SSSI) to the west, which is part of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC), and Carrol Rock SSSI on the south-westerly shore of Loch Brora. Coir' an Eoin SSSI is designated for its upland wetland and peatland habitats and species, including blanket bog and otter.

2.6 The proposed development lies immediately to the south-east of the Caithness and Sutherland Peatlands Special Protection Area (SPA). The SPA qualifies under Article 4.1 of the EU Birds Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: black-throated diver; golden eagle; golden plover; hen harrier; merlin; red-throated diver; short-eared owl; and wood sandpiper.

2.7 There are no statutory landscape designations within the site boundary. The Ben Klibreck –Armine Forest area of Wild Land Area (AWL) falls to the west, a small part of which falls within the existing Gordonbush wind farm site at its northwest corner. Loch Fleet, Loch Brora and Glen Loch Special Landscape Area (SLA) lies at a minimum of 1.6km to the east. The Dornoch Firth National Scenic Area (NSA) is approximately 23km south of the site.

2.8 The site extends into a landscape of sparse features of settlement and cultivation dating from the Iron Age to early 19th century. There are no Scheduled Monuments (SM) or Listed Buildings (LB) within the site boundary. Located within 15km of the outermost turbines of the proposed development are 12 SMs and five LBs (all category B).

2.9 When assessing an application for a wind farm, consideration is required of similar developments around the site. Within the immediate area at around 5km to the south of the site, on the north-west-facing slopes of Meall Horn and Meall Odhar, is the operational Kilbraur Wind Farm and its extension. The list below presents

the projects 35km around this development site that are Operational, Approved or have been Submitted but are not yet determined. It also includes sites in the local area that have been refused.

Built and / or Consented

Gordonbush, Kilbraur and its extension; Lairg, Achany and Rosehall wind farms.

Under consideration

Strathy South - (Council raised an objection – PLI held):
Braemore - (Council raised an objection – PLI held);
Craig Riabhach - (Council raised no objection);
West Garty - (Council raised an objection);
Strathy Wood – pending consideration.

Refused

Balnacoil and Tressady.

3. PLANNING HISTORY

3.1 **22.11.2013** Environmental Impact Assessment – Scoping response issued by ECDU - (13/03750/SCOP).

4. PUBLIC PARTICIPATION

4.1 The application was advertised twice under the EIA Electricity Act Regulations. The last deadline for representations to the Scottish Government was 18/12/2015.

4.2 Scottish Government ECDU has received one public representation objecting to this application.

4.3 The Highland Council has received 12 representations including 13 objections and 1 in support. The objections include a petition from the Loth Residents Association.

4.4 Material considerations raised in objection are summarised as follows: -

- Conflict with Development Plan.
- Impact on Loch Fleet, Loch Brora and Glen Loth Special Landscape Area.
- Visual intrusion to Strath Brora between Balnacoil and Ascoile.
- Visible impact on Core Path Network (SUO6.02).
- Adverse design – turning a compact development into an untidy scheme.
- Impact on areas of wild land – Ben Klibreck and Ben Armine.
- Impact on valued local bird life, ornithological habitat, wildlife.
- Traffic impact to local residents who use the A9(T) road.

- Impact on tourism / local economy.
- Noise.
- History of rejection of wind farm projects in this strath.

4.5 Material considerations raised in support are summarised as follows:

- Community concerns on previous project unfounded.
- Good for the local economy.
- No negative impact on tourism.

5. CONSULTATIONS

Consultations undertaken by the Planning Authority

5.1 **Brora Community Council** has no objection to this application. It highlights that there should be less turbines in order to reduce visual impact on the Special Landscape Area. If this application is permitted then there should be no further turbines in this area.

5.2 **Golspie Community Council** supports the application.

5.3 **Access Officer** has no objection to the application.

5.4 **Historic Environment Team** has no objection to the application. Conditions required to secure mitigation for example for Sites 63 and 71 (putative prehistoric clearance cairns) which will require detailed survey and evaluation, leading to full excavation if features prove to be significant, in advance of development.

5.5 **Transport Planning** has no objection to the application. Request is made for conditions to secure approval of a Construction Traffic Management Plan (CTMP) to satisfy the respective requirements of the police, the roads authorities and community representatives.

5.6 **Flood Team** has no objection to the application. It requests conditions to secure the offered mitigation of a 50m buffer to all watercourses on the site and to ensure that the site does not result in a higher run off and that current flow paths are retained.

5.7 **Environmental Health** has no objection to the application.

Consultation undertaken by Energy Consent Unit

5.8 **Transport Scotland** has no objection to the application. Request is made for conditions related to adnormal loads using the trunk road network.

5.9 **Scottish Natural Heritage** has no objection to the application. It requests planning conditions to safeguard existing interests.

5.10 **Scottish Water** has no objection to the application.

5.11 **Scottish Environmental Protection Agency** has no objection to the application. Conditions are requested with any consent to require a site specific Construction and Environmental Management Document (CEMD); compliance with the submitted Schedule of Mitigation; 50m of micrositing as relevant to water bodies, deep peat; GWDTEs; and a Decommissioning and Restoration Management Plan.

5.12 **Marine Scotland** has no objection to the application. It raises concerns in respect of water quality, with a need for monitoring and effective response to manage any changes.

5.13 **Civil Aviation Authority** has no objection to the application. A request is made for a condition to ensure the Defence Geographic Centre is informed of construction details for inclusion on aviation charts.

5.14 **Ministry of Defence** has no objection to the application. A request is made for a condition to secure aviation warning lighting (infra-red acceptable) on the perimeter turbines and in addition 25 candela lighting on all of the cardinal wind turbines at the highest practicable point.

5.15 **National Air Traffic Systems** has no objection to the application.

5.16 **Radio Frequency Allocation and Network Protection** has no objection to this application.

5.17 **Visit-Scotland** has no objection to the application.

5.18 **Scottish Wildlife Trust** object to the application. This position is adopted on account of likely effects the proposal would have on blanket bog and because the proposal is contrary to The Scottish Government's second Report on Proposals and Policies (RPP2) for meeting its climate change targets.

5.19 **Royal Society for the Protection of Birds** has no objection to the application.

5.20 **Mountaineering Council of Scotland** has no objection to the application.

5.21 **John Muir Trust** objects to the application. It highlights key objections in respect of areas of wild land; visual; landscape and cumulative impacts; peatlands; and socio-economic impact:

6. DEVELOPMENT PLAN

6.1 The following policies are relevant to the assessment of the application

Highland-Wide Local Development Plan 2012

6.2 Policy 28 Sustainable Development
Policy 29 Design, Quality and Place Making
Policy 31 Developer Contributions

Policy 55 Peat and Soils
Policy 57 Natural, Built and Cultural Heritage
Policy 58 Protected Species
Policy 59 Other Important Species
Policy 60 Other Important Habitats
Policy 61 Landscape
Policy 64 Flood Risk
Policy 67 Renewable Energy including significant effects on: -

- Natural, Built and Cultural Heritage
- Other Species and Habitat Interests
- Landscape and Visual Impact
- Amenity at Sensitive Locations
- Safety and Amenity of Individuals and Individual Properties
- The Water Environment
- Safety of Airport, Defence and Emergency Service Operations
- The Operational Efficiency of Other Communications
- The Quantity and Quality of Public Access
- Other Tourism and Recreation Interests
- Traffic and Transport Interests

Policy 72 Pollution
Policy 77 Public Access

Sutherland Local Plan (as amended by the HwLDP)

6.3 The policies of the Local Plan that applied to the development site have all been superseded by policies presented in the HwLDP.

Caithness and Sutherland Local Development Plan (Issues Paper)

6.4 No relevant policies.

7. OTHER MATERIAL PLANNING POLICY

Scottish Government Planning Policy (SPP) and Guidance

7.1 The Scottish Government policy statement continues support for onshore wind. It lists likely considerations to be taken into account, which comprise the following: -

- Net economic impact;
- Contribution to renewable energy targets;
- Effect on greenhouse gas emissions;
- Cumulative impacts;
- Impacts on communities and individual dwellings;
- Landscape and visual impacts, including wild land;
- Natural heritage;
- Carbon rich soils;
- Public access;
- Historic environment;
- Tourism and recreation;

- Aviation and defence interests;
- Telecommunications
- Road traffic;
- Trunk roads;
- Hydrology and flood risk;
- Decommissioning;
- Energy storage;
- Planning obligations for site restoration.

7.2 In addition to the above the Scottish Government sets out further advice on Renewable Energy in a number of documents and on web based information including: -

- National Planning Framework for Scotland 3.
- PAN 1/2011 – Planning and Archaeology.
- PAN 1/2011 - Planning and Noise.
- PAN 1/2013– Environmental Impact Assessment.
- PAN 60 – Planning for Natural Heritage.
- PAN 61 – Planning and Sustainable Urban Drainage Systems (2001).
- PAN 75 – Planning for Transport.
- 2020 Routemap for Renewable Energy in Scotland (2011).
- 2020 Routemap for Renewable Energy in Scotland – Update (2013).
- The Electricity Generation Policy Statement (2013).
- Onshore wind turbines (First published February 14, 2011 updated February 14 and 25, 2011, August 5, 2011, January 27, 2012, March 14, 2012 , May 02, 2012, August 28, 2012, October 24, 2012, July 17, 2013 December 2013 and last updated May 28, 2014).
- Wind Farm developments on Peat Lands (June 2011).

Onshore Wind Energy: Draft Supplementary Guidance

7.3 Scottish Planning Policy 2014 (SPP) states that "planning authorities should set out… a spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms…", and that "development plans should also set out criteria that will be considered in deciding all applications for wind farms of different scales." The Council's approach to onshore wind energy development has been approved for public consultation.

Highland Renewable Energy Strategy (HRES) (May 2006)

7.4 While superseded, in part, by the above SG, HRES is still relevant as a strategy document for renewable energy. Relevant policies to the current application, not otherwise superseded the above noted Supplementary Guidance, include:

Policy H1 Education and Training
Policy K1 Community Benefit
Policy N1 Local Content of Works

8. PLANNING APPRAISAL

8.1 Section 25 of the Town and Country Planning (Scotland) Act 1997 requires planning applications to be determined in accordance with the Development Plan unless material considerations indicate otherwise. Although this is not a planning application, as it carries with it the potential for deemed planning permission, the Council adopts this approach to its consideration of any Section 36 application.

8.2 The determining issues for the Council as planning authority responding to this consultation are:

- Does the proposal accord with the development plan?
- If it does, are there any material considerations for not approving the proposed development?
- If it does not accord, are there any material considerations for approving the proposed development?

Assessment

8.3 To address the determining issues, the Planning Authority must consider the following:-

a) Development Plan.
b) Draft Supplementary Guidance: Onshore Wind Energy.
c) Highland Renewable Energy Strategy.
d) National Policy.
e) Roads / Traffic Impact and Public Access.
f) Water / Drainage / Peat.
g) Natural Heritage.
h) Design.
i) Landscape Impact.
j) Visual Impact.
k) Cultural Heritage.
l) Economic Impact, Recreation and Tourism.
m) Aviation and Telecommunication Interests.
n) Noise.
o) Construction Impacts.
p) Other Material considerations within representations.

Development Plan

8.4 The Development Plan comprises the adopted Highland-wide Local Development Plan (HwLDP) and Sutherland Local Plan. There are no site specific policies affecting this application site within the Sutherland Local Plan. The Development Plan recognises the potential for renewable energy development in Highland with Policy 67 (Renewable Energy Developments) of the HwLDP that gives general support to this type of renewable energy development. It is a key policy consideration in the assessment of this application. However, various considerations and safeguards are built into the policy wording. Policies 28

(Sustainable Design), 57 (Cultural and Built Heritage), 58 (Protected Species) and 61 (Landscape) are all relevant to this application and also require to be given due weight.

8.5 The Development Plan supports the broad principle of renewable energy development. Where development is located, sited and designed in such a way as not to be significantly detrimental, either individually or cumulatively with other developments, proposals would accord with the Development Plan.

Draft Supplementary Guidance – Onshore Wind Energy

8.6 The Council has developed Draft Supplementary Guidance (SG) to assist with the consideration of onshore wind energy projects. The site falls within a Stage 2 Area of Constraint on account of carbon rich soils / peat lands. SPP advises wind farms in these areas may be appropriate in these areas in some circumstances. Surrounding interests also include areas of wild land (AWL). The application needs to demonstrate how the significant effect on key qualities can be substantially overcome by siting, design or other mitigation. Policy 67 of the HwLDP therefore applies, with additional interpretation as provided within the draft SG.

Highland Renewable Energy Strategy (HRES)

8.7 The Development Plan makes reference to HRES which was developed by the Council to address opportunities presented by a range of Renewable Energy technologies. In particular the document addresses additional benefits from such investment including for example 'Education and Training,' 'Community Benefit' and 'Local Content'. These are important considerations when assessing individual project proposals including proposed packages of "planning gain" and "mitigation". For the avoidance of any doubt only those parts of the Council's HRES which are compliant with Scottish Government SPP remain in force.

Scottish Planning Policy

8.8 There is strong support for renewable energy development in national policy. The Scottish Government has a target of 50% of Scotland's electricity demand generated from renewable resources by 2015 and 100% of demand by 2020. These targets are not a cap. As the technology is well developed it is expected that the majority of this energy demand could be met by on-shore wind farms.

8.9 The Council is responding positively to the Government's renewable energy agenda and specifically to the current targets. The Scottish Government advised that operational onshore wind energy capacity at December 2014 was 7,316MW; equating to ~50% of Scotland's Gross electricity consumption. Highland onshore wind energy projects in operation as of June 2014 have a capacity to generate 1,162MW approximately 16% of the nationally installed capacity. There is a further 772MW of consented on-shore wind and 1,866MW off-shore wind in Highland.

8.10 The Scottish Government's policy and advice, set out in its National Planning Framework 3 (NPF 3) and Scottish Planning Policy, which advances policies on Sustainability and Placemaking, and subject policies on a Successful, Sustainable Place; a Low Carbon Place; a Natural, Resilient Place; and a Connect Place. Policy and advice is very supportive of renewable energy development and highlights that planning authorities have a duty to contribute to sustainable development, through their development planning function. It highlights that the Development Plan continues to be the starting point of decision making on planning applications.

8.11 The content of SPP is a material consideration that carries significant weight, although it is for the decision maker to determine the appropriate weight to be afforded to it in each case. There is no indication within SPP of a lessening of policies which are focused upon protecting the natural, built and cultural environment. Criteria for the assessment of applications are as listed earlier in this report. These topics, as relevant to this application, are examined within this assessment. Of some relevance in the current SPP is the introduction of the Scottish Government's advice on "areas of wild land (AWL)" and "priority peatland habitats".

8.12 The provision of a further 56MW would make a useful contribution to the Scottish Government, UK and European energy targets. Having said that, the good progress to the energy targets and a general acceptance that Highland has substantial areas that may be capable of satisfactorily accommodating renewable developments without such significant effects, the Council can take a measured approach to determining which wind farm developments should be supported, consistent with national and local policy. This is not treating targets as a cap or suggesting that targets cannot be exceeded; simply recognition of the balance that is called for in both national and local policy.

Roads, Traffic Impact and Public Access

8.13 The ES presents the route option for the delivery of abnormal loads to the site from Invergordon, which have been previously used for wind farm development. A final pre-commencement Traffic Impact Assessment for all traffic types is to be provided with the prospect of mitigation as required by each roads authority. This would include road widening and strengthening; verge strengthening; etc. Both roads authorities are content with the application, subject to conditions being attached to any consent. To address wear and tear issues the Council will also require a legal agreement with provision of a financial bond. This will also require a trial run for adnormal loads and pre and post construction video condition surveys.

8.14 There is no significant recreational access resource within the site area, although public access has increased following the development of the initial wind farm. The development is however on land where access rights can be taken. Should the project be consented an updated access management plan will be expected, to be approved by the planning authority before construction starts. This will show the main access tracks to and within the development site and any access control

infrastructure (gates, fences etc.) proposed. Measures to allow unhindered public access through any gates, if they are to be locked to prevent unauthorised vehicle access, can be detailed in this plan.

Water, Drainage and Peat

8.15 There are no public or private water supply sources connected with the site. The key interest relates to water quality safeguards for the downstream fishing interests associated with the River Brora. There are no areas identified as being at risk of flooding within or immediately downstream of the site. The ES has highlighted a number of good practices to be deployed in the construction of the proposed wind farm. This includes for example the avoidance of areas of interest: using a 50m development buffer away from watercourses; appropriate watercourse crossing design and drainage provisions to maintain existing discharge flows.

8.16 The applicant has made a commitment to submitting a detailed finalised site specific Construction Environmental Management Document (CEMD) in collaboration with the procured contractor addressing outstanding issues prior to development commencing, in line with Council policy and practice. This can ensure water quality management in protection of fishing and other interests is implemented to meet concerns raised by Marine Scotland. This can involve water quality monitoring and response protocols to manage any changes to water quality arising from construction impacts.

8.17 Both SEPA and the Council's Flood Team are content with the application and the mitigation offered, subject to planning conditions securing for example the final approval of the CEMD and Peat Management Plan. SEPA has in particular noted that given the survey results of peat across the site the design avoids areas of deepest peat and areas of Ground Water Dependent Terrestrial Eco-systems (GWDTEs). SNH has advised that this proposal would have adverse impacts on peat / priority peatland habitats / carbon rich soils, as also highlighted in other presentations. However, it recognises that within the site where the turbines are located there is limited scope for additional mitigation, siting or design over and above what the ES already proposed.

Natural Heritage

8.18 The ES advises on the likely impact of the development upon local nature conservation interests, including designated sites in the wider area. This includes assessment of valued habitat, ground water dependent terrestrial eco-systems (GWDTEs), protected mammals (otters a qualifying species of the SAC), ornithological interests e.g. golden plovers (a qualifying species of the SPA).

8.19 The applicant considers that there will be no significant impacts arising from the development and proposes to manage potential concern at construction through the employment of an Ecological Clerk of Work (ECoW). It is also proposed to extend the current Habitat Management Plan (HMP) associated with the initial project across this estate through the operation of the proposed turbines. This provides mitigation for potential effects on the wind farm on golden eagle, merlin

and golden plover in particular, requiring a number of measures such as management of wild deer, grazing management, ditch blocking, bracken control and woodland management. These measures are consistent with many wind farm projects and are to be welcomed.

8.20 SNH does not consider that there would be any significant effect on any of the qualifying interests of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC) or Special Protection Area (SPA), or an adverse impact on their component SSSI. Therefore further consideration of protected areas and / or an "appropriate assessment" under the Habitats Regulations is not required. It has also considered the impacts on other natural heritage interests such as protected species, peat / peatland habitats and deer. It recommends that the mitigation and measures identified within the ES relating to nature conservation interests are secured by condition.

8.21 RSPB has been specifically involved with ornithological surveys at Gordonbush over the last five years to assess the impact of the initial wind farm development on local ornithological interests, especially the Golden Plover. The outcome of this work has confirmed that the initial interest surrounding this species was not as significant as had been thought and that the regional population continues to thrive. This of course recognises the mitigation undertaken for example with the implementation of the agreed Habitat Management Plan on the estate, which is to continue.

Design

8.22 The project extends the existing Gordonbush wind farm in a southerly direction, at lower elevation and closer to Strath Brora. This minimises encroachment upon landscape interests to the west (i.e the AWL) and east (i.e. the SLA). The design has sought to avoid areas of deep peat, watercourses and areas of GWDTEs. It proposes turbines of 130m to tip height, much larger than the existing Gordonbush turbines which are 110m. In principle this larger turbine is acceptable, given the falling nature of the ground across a steady slope.

8.23 A mix of turbines is not inconsistent with other projects in the area e.g. Kilbruar where different phases of development have seen turbines at 115m and 125m to tip height deployed successfully. However, in addition to the above, 3 smaller turbines at 115m are proposed. These are required to reduce the visual impact upon Strath Brora, especially from within the SLA which was a particular concern behind the refusal of the Balnacoil wind farm.

8.24 The layout is generally consistent with SNH advice / guidance, with turbines running with the underlying landform "moorland" slope running south from Cnoc a Chrubaich Mhoir (to the north) and contained by the landscape around Beinn Smeorail (to the east). However, the initial Gordonbush wind farm as viewed from Sciberscross on the C6 Strathbrora – Rogart road, to the west of development is quite formal, with rows of turbines evident. A consequence of the extension is that in this view, a short-lived experience for road users travelling eastwards, some of the rows are infilled, leaving a more confused cluster. Furthermore at Balnacoil, the extension will be visible to those who use the Strath, albeit it will still be perceived as being set back from / behind the slopes (Cnoc a Ghrianain) that help

define the “strath”. Both these impacts are viewed only briefly on journeys through the strath. It will add to the impact already experienced of the Kilbraur wind farm. Overall however, the layout of the development, as viewed from the surrounding area, is acceptable.

8.25 The development of the Gordonbush wind farm, using external transformers, highlights the reasoning behind the Council’s stance against the additional clutter that these cabinets add to any development. In line with Council policy the applicant has indicated a willingness to use turbines with internal transformers. This can be secured using planning conditions attached to any deemed consent.

Landscape

8.26 The ES highlights that the site lies on the cusp of two landscape character types as defined by SNH; sweeping moorland (the western part of the site) and moorland slopes and hills (the eastern part). This boundary is not clearly defined with the site being transitional i.e. displays characteristics of both types.

8.27 The wider area includes varied coastal and interior landscapes typical of the north-eastern Highlands. The assessment identified 23 Landscape Character Types (LCTs) within the 35km study area, some of which (8) would have significant effect should the development be approved, including inland loch (Loch Brora), small farms and crofts (Balnacoil Area), Strath (Strath Brora), and sweeping moorland and hills. The significant effect from the development largely falls within this latter classification, generally within 6km of the proposed turbines, where high visibility is available. The significance of the impact however is often offset given the effects already experienced from the existing turbines.

8.28 The ES has assessed the key impacts upon recognised landscape interests including the Ben Klibreck – Armine Forest AWL as advanced within Scottish Planning Policy and the Council’s Loch Fleet, Loch Brora and Glen Loth Special Landscape Area. These are considered in turn.

8.29 The Ben Klibreck – Armine AWL eastern boundary lies 200m west of the nearest turbine which is to the west of the Beauly – Dounreay transmission line. Turbine development is therefore outwith the AWL and very much away from the landscape within the AWL that hosts the highest wild land qualities / characteristics. The impact of the development is regarded as consistent with the impact already experienced from the initial Gordonbush wind farm, and nearby Kilbraur wind farm. Accordingly the impact is not seen as having a significant effect on wild land interests. SNH agrees with the assessment and considers the extension to the wind farm can be accommodated.

8.30 With regard to the Loch Fleet, Loch Brora and Glen Loth Special Landscape Area the development is outwith the Council’s SLA designation. Nevertheless the size and scale of the development is one that will have impact on some of the special qualities of this landscape designation, at Carroll Rock for example and the southern shoreline of Loch Brora. Notwithstanding the reduction in size of the

southernmost turbines the development will have visible impact on some parts of the Strath Brora “sheltered glen” highlighted as one of the special qualities of the SLA.

8.31 The impact on the landscape, as experienced by most receptors, would be road travellers through the SLA north of Loch Brora as represented within Viewpoint 3 south of Killin. Moving westwards and north of Killin at Viewpoint 4 the impact is lessened by intervening commercial forestry. The impact is much less than would have been experienced for the Balnacoil wind farm project, but is nevertheless significant. The Balnacoil development whilst a greater distance, presented 15 turbines at a distance of 7km north of Killin (VP 4 of the current application). Further mitigation to reduce the impact on the SLA through the removal of Turbine 15 and lowering the height of Turbine 11 from 130m in height to 115m has been discussed and agreed with the applicant. Such mitigation would go some way to addressing the comments made by Brora Community Council. It is acknowledged that the other special qualities of the SLA would not be impacted by the development including its “Historic Features” (e.g. Skelbo Castle, Glen Loth) and Integrated Combination of Landforms (e.g. Loch Fleet, Coastal Shelf, dominant ridgeline of Ben Bhraggie).

Visual Impact

8.32 The anticipated visual extent of the development has been identified by the applicant through mapping of the Zone of Theoretical Visibility (ZTV). This has helped to identify 17 viewpoints (VP) to represent the likely impact of the development as would be experienced by receptors (people) at key locations, in addition to those who use local roads, cycleway(s) and within local communities. In this manner the significant visual effects of the development can be understood, particularly with the aid of photomontages and compared with existing impacts from other wind farms.

8.33 The approach and conclusions of the ES are consistent with best practice. A key finding, articulated within the SNH response, is that although there are additional effects, these will be limited due to the fact that the proposal would add little additional impact given the current effect of the existing turbines / wind farms in the area. Significant visual impacts are considered in turn: -

VP 1 - Beinn Smeorail lies 1.62km east of the nearest turbine. It represents a local hill top, within the SLA, where a full view of the existing turbines and proposed turbines would be seen. In both views the proposed development presents very much as an extension of the existing wind farm. The impact is significant, but this is mitigated by the layout, its containment within the landform, and by the fact that the wider landscape of moorland and distant mountains remain unaffected. Whilst other wind farms are visible from each of these locations there is no significant increase in the cumulative extent of such development across the wider view.

VP 2 - Loch Brora – south side lies 3.98m to the nearest turbine. It represents walkers on the core path and fishermen on the Loch, both activities within the SLA. The impact at this VP, where one blade tip of the current Gordonbush

turbines is seen, will be of 11 turbines (7 hubs). The commercial woodland in the foreground mitigates some of the impacts, but retention of the trees is not guaranteed, although in the applicant's control.

VP 3 - South of Killin lies 6.5km south east of nearest turbine the impact is potentially 9 turbines (5 hubs and 4 as blades only). The commercial woodland in the foreground mitigates some of the impacts, but retention of the trees is not guaranteed, although in the applicant's control. It is Turbine 11 (130m) and turbine 15 (115m) that make the most significant impact on road users (residents and tourists) travelling west within the SLA. The removal of Turbine 15 and lowering in height of Turbine 11 have been suggested as an appropriate mitigation to addressing adverse visual impact.

VP 4 - North of Killin lies 5.2km south east of the nearest turbine the impact is potentially 5 turbines (2 hubs and three as blade only). The commercial woodland in the foreground mitigates some of the impacts but, although in the applicant's control, retention of the trees is not guaranteed. The impact would be significant if the existing tree cover was removed, particularly as the site lies within the SLA. It is notable that VP4 lies nearer to the development than VP 3, as the impact is reduced by the local topography and woodland cover.

VP 5 - Balnacoil lies 2,8km south west of the nearest the impact is potentially thirteen turbines (5 hubs and eight as blades only) on road users and people in the area for recreation (walking / fishing). The impact is mitigated by forestry and the existing transmission line. It presents a reminder of wind farm development in the area, with no views of the existing scheme or of Kilbraur wind farm.

VP 6 - Sciberscross lies 5.86km south west of the nearest turbine where a full view of the existing turbines and proposed turbines would be seen by road users. This is in addition to almost full visibility of Kilbraur wind farm. Although the impact is significant, it is short lived, and contained within the landform of Beinn Smeorail.

VP 9 - Ben Horn lies 7.17km, south of the nearest turbine. It represents a local hill top, within the SLA, where full view of the existing turbines and proposed turbines would be seen. In both views the proposed development presents very much as an extension of the existing wind farm. The impact is significant, but this is mitigated by the layout, its containment within the landform, and that the wider landscape of moorland and distant mountains remain unaffected. Whilst other wind farms are visible from each of these locations there is no significant increase in the cumulative extent of the development across the wider view.

VP 12 - Track to Ben Armine lies 7.8km west of the nearest turbine. It represents a walking route within an area of wild land with a full view of the existing turbines and proposed turbines. The impact is significant, but this is mitigated by the layout, its containment within the landform, and the consideration of the impact from the additional turbines at Gordonbush.

8.34 Whilst recognition has been given above to the significant impacts of this application, this has to be balanced with the fact that the development would not be seen from the main communities on the east coast (Helmsdale, Brora, Golspie, Dornoch) and inland (Rogart / Lairg). There will be no significant effects on other routes, including the A9, A836, A839, A897 and A949, national cycle routes, long distance walking routes and railway lines, where there are substantially higher levels of traffic / footfall. The significant hill tops for climbers, including Munro's and Corbetts, lie away from the site.

8.35 Assessment of the visual impact of the development has highlighted areas of concern, with an appreciation of the people that it would affect. It recognises the mitigation through design and layout and the addition to the cumulative effects of on-shore wind energy in the area. Whilst from many viewpoints the visual impact of the develop is acceptable it maintains a small but nevertheless significant impact on the Loch Fleet, Loch Brora and Glen Loth SLA and particularly on key receptors using the local road south of Killin. This impact could however be reduced as a result of the suggested amendments to delete Turbine 15 and reduce the height of Turbine 11.

Cultural Heritage

8.36 The ES identifies a number of historical assets that are recorded within close proximity to the development, most notably alongside the access roads and borrow pits. The ES proposes no mitigation. The assessment in particular considers three SAM's of particular interest to Historic Environment of Scotland (HES) including at the Ascoile earthwork (Index No. 3288), Kilbraur, hut circle and clearance cairns (Index No. 1793) and Balnacoil Hill, cairn (Index No. 1769). HES is content not to raise an objection on national interest. However, of note, HES have considered the road improvement works undertaken with the initial project at the Ascoile SAM, which sits in and adjacent to the public road. It is content that no further works / safeguards are required.

8.37 The Council's Historic Environment Team advise there may be a risk of accidental and / or inadvertent damage, i.e. from movement of plant or the micrositing development features. It therefore expects the following historical assets to be afforded a basic level of protection (marking out) to ensure preservation in situ including - Site 15 (cairn), 27 (clearance cairns), 29 (hut circle), 38 (clearance cairns) and 54 (cairn). Furthermore Sites 63 and 71 (putative prehistoric clearance cairns) are both likely to be lost should the development obtain consent. In this case, both groups of features will require detailed survey and evaluation, leading to full excavation if features prove to be significant, in advance of development. These can be addressed using planning conditions.

Economic Impact, Recreation and Tourism

8.38 The project has highlighted the potential investment / employment benefits that it will bring to the area, both short term during construction and then longer term. Total capital investment from the project is given as £40.5m, with the potential Highland share across local businesses being around £8.2m. Annual maintenance costs would amount to some £2.4m which would result in a small

number (2 - 3) of jobs locally. During the initial wind farm development, the company established a high level of engagement from local suppliers and continues to build a strong local supply chain. In addition, the company operates an apprenticeship scheme that has helped 5 young people a year in the area of Rogart, Golspie, Brora and Helmsdale.

8.39 The applicant has recognised the tourist attractions and businesses in the surrounding area based upon walking, cycling, fishing, golfing, historic attractions, whisky visitor centres, hotels and many other forms of visitor accommodation. Its assessment is that given the construction and operation of the existing wind farm which has not resulted in a negative effect on the local tourism and recreational interests of the area, the extension would similarly be absorbed. Indeed at a local level the wind farm development has brought real benefits. The estate has a greater level of investment in its fishing / angling operations and walkers are enjoying a higher level of access to the area as a consequence of the wind farm tracks. The local heritage group is also benefiting from the initial project with the expected creation of a resource centre at the old school house, on the Clynelish distillery road with the A9. This property was acquired by SSE to assist with junction improvements in association with the Gordonbush development.

Aviation and Telecommunication Interests

8.40 Turbines have the potential to interfere with electromagnetic signals due to their size. The ES highlights consultations with key aviation interests including CAA, NATS, HIAL and the MOD. No objections have been made to the application but requests have been made for planning conditions to be attached to any deemed consent. These should secure the provision of construction details to assist aviation mapping of key elements of the project and the provision of aviation lighting. In this regard aviation warning lighting (infra-red acceptable) on the perimeter turbines and in addition 25 candela lighting on all of the cardinal wind turbines has been agreed.

8.41 No objections have been raised on matters pertaining to TV and Radio communications from consultees. Given that the area is serviced from Rosemarkie to the south, the development is not expected to have any impact on local receptors that live to the south side of the development.

Noise

8.42 Given the isolated location of the turbines from housing, potential impact arising from noise or other potential nuisances such as shadow flicker and ice throw are limited. The submitted noise assessment looks at the potential operational noise from the development, and importantly the cumulative impact arising with the operational Gordonbush, Kilbraur and Kilbraur extension turbines. The relevant affected properties of interest lie between Kilbraur wind farm and this development at Ascoile. The assessment recognises of course that the wind cannot blow in two directions at once. Therefore, while the wind is blowing one way, the noise from one wind farm will be reduced at these properties.

8.43 However, this does raise the question of respite, i.e. where the combined levels do not breach the relevant limits but the length of time that these properties might be exposed to some wind farm noise will increase. In this case, the predicted levels are low, no more than 30dB in the case of this development and no higher than 33dB in the case of Kilbraur. This is not to say that some wind turbine noise will not be audible at times. The assessment indicates a minimum 3dB gap between the predicted levels and the cumulative limits. The Environmental health Officer (EHO) has suggested that an appropriate limit for this development would be the predicted levels plus 2dB which would allow a margin of 1dB.

Construction Impacts

8.44 The applicant has highlighted its commitment to a CEMD approach, with construction method statements being tabled with the application. The CEMD approach would apply to all construction activity and site restoration works, both short term and at de-commissioning. It also needs final input from the appointed civil engineers. This is expected to ensure controls over working hours at the site and generally manage construction activities for example to minimise the risk of pollution, silting, waste and dust management.

8.45 Construction activities are to be between 07.00 and 19.00 hours Mondays to Fridays, and 07.00 to 14.00 hours on Saturdays between April and September. In winter months (i.e. between October and March), working hours are anticipated to be between 07:30 and 17:00 Mondays to Fridays and 07:30 and 14:00 on Saturdays. Requests are likely to be made for extensions to these times, when critical works are underway – such as turbine erection. These are managed in liaison with the Planning Service and would have little impact on nearby residents / communities.

8.46 Construction activities at the turbine sites are unlikely to be significant in terms of noise. Of more concern is the potential construction traffic noise to properties that lie to the west of the initial section of the site access road at Ascoile. One property in particular, Moulin Cottage lies in very close proximity to the track and at times could be affected by noise. The main source of noise will be HGV traffic. The Council has powers under the Control of Pollution Act 1974 to control noise from construction activities including traffic therefore, the use of planning conditions to duplicate those controls is not considered necessary.

8.47 However, the proximity of the access track to Moulin Cottage could result in the occupants being subjected to excessive levels of noise at times. The EHO advises that the applicant gives consideration to introducing screening to minimise noise from vehicle movements on the track. As a minimum, mitigation measures identified in Appendix 13.1 -Section 6 of the ES - Noise and Vibration document to be implemented in full as well as the recommended mitigation measures in Section 8 of the British Standard (BS) 5228-1:2009 (code of practice for noise and vibration control on construction and open sites – Part 1: Noise).

8.48 The decommissioning period for a wind farm of this size is estimated to be 12 months. Detailed decommissioning proposals would require to be agreed with relevant authorities prior to the commencement of any decommissioning activities.

This is anticipated to involve:

- Dismantling and removal of the turbines and site substation;
- Removal of the turbine foundations - to 1m below ground level;
- Removal of substation building foundations; and
- Re-instatement of all land affected, in accordance with best practice at the time.

8.49 The ES suggest that that the access tracks / spine road would not be removed. Whilst it is open to the estate to apply for planning permission to retain new access tracks created by this application, any approval should require all new access tracks to be decommissioned, removed and the ground restored. It is noteworthy that this application seeks to use "new access tracks" developed for the initial wind farm project, which as part of its consent would be decommissioned in associated with that project. Given that this consent will extend beyond the operation life of the initial project, an adjustment would be required to transfer the obligation from the initial approval and decommissioning bond to any consent for this project and its associated decommissioning obligations.

Other Material Considerations within representations

8.50 In line with Council policy and practice, community benefit considerations are undertaken as a separate exercise, generally in parallel to the planning process.

8.51 There are no other relevant material factors highlighted within representations for consideration of this application by the committee.

9. CONCLUSION

9.1 The Scottish Government gives considerable commitment to renewable energy and encourages planning authorities to support the development of wind farms where they can operate successfully and situated in appropriate locations. The project has the potential to contribute an additional 56MW of renewable energy capacity towards Scottish Government targets. However, as with all applications, the benefits of the proposal must be weighed against potential drawbacks and then considered in the round, taking account of the relevant policies of the Development Plan. This will include consideration of any mitigation offered to address particular environmental and construction impacts.

9.2 Two Community Councils have intimated their support for the project. This arises in part from their experience with the initial project, but with a cautionary note of the need for constraint over the further expansion of wind farms in the locality. Other consultees are content with the project subject to planning conditions being put in place to secure the protection of key environmental safeguards. Conditions can secure site specific construction environmental management controls as requested by several consultees.

9.3 However, a number of drawbacks have also been highlighted. These have been set out within representations to the Council and raised within the objections by Scottish Wildlife Trust and the John Muir Trust. These objections focus on the impact of the development on the landscape, including an area of wild land and a Special Landscape Area. In addition. within the Council's Onshore Wind Energy Draft Supplementary Guidance the site falls within a Stage 2 "Area of Constraint" within SPP on account of carbon rich soils / peat lands.

9.4 With regard to the above Draft SG, and particularly in respect of the Stage 2 constraints, the applicant has demonstrated that these key qualities can be overcome by the proposed siting, design and offered mitigation. Both SEPA and SNH are content that the proposal has by design avoided areas of deep peat and areas of interest for GWDTE 's. Furthermore the sustainable elements of the project are strong, with CO_2 payback of between 1.3 - 2.6 years. In addition, the existing habitat management plan, particularly deer management, is to be continued across the Estate. This will be beneficial to the peat resource.

9.5 In terms of landscape impact, the presence of the existing Gordonbush project and Kilbraur wind farm has had an important influence on the acceptability of the proposal. With regard to the Ben Klibreck – Armine AWL, the addition of the proposed turbines as an extension to Gordonbush is seen as acceptable. The project exemplifies the benefits of the clustering of turbines in the landscape to contain the overall impact. However, significant landscape concern is presented with this project. This is the increased impact upon Strath Brora, particularly the lower area of Strath Brora, which falls within one of the Council's Special Landscape Areas. In this manner there is conflict with Policy 61 of the HwLDP.

9.6 In visual terms the impact of the development, by it close association with an existing scheme, in many areas has been minimised. Given the presence and impact of the Gordonbush turbines on this locality, the addition of the further 16 turbines does not introduce a significant change, particularly when viewed from local hilltops and the surrounding open moorland. However, it is the increased visual impact to road users (residents and tourists) through Strath Brora where visual impact will present the greatest change.

9.7 Of note, is the particular impact of two turbines (Turbines 11 and 15) whose hubs and blades tips would be viewed by road users, represented by VP 3, passing westward through the "shelter glen" of Strath Brora; an important area part of the SLA. This recognises that there is still potential impact form other turbines but not to the same significant degree given the screening offered by local woodland. It is accepted that these two turbines are seen at a distance of over 6.5km, but nevertheless will be highly visible in the view of eastbound road travellers. In reaching this decision, some reflection has be given to final determination of the Balnacoil wind farm which although having much greater visual impact, were at a distance in excess of 7 - 8km when viewed from Killin.

9.8 The consideration of this application for the Council principally lies within the provisions of Policy 67 of the Highland Wide Local Development Plan. The design and layout from many angles is seen as acceptable with its impact absorbed by the impact that already arises from the operational turbines at Gordonbush.

However, the project will have an adverse visual impact as viewed from the Strath Brora road in the vicinity of Killin. This impact is also in conflict with the special qualities of the Loch Fleet, Strath Brora and Glen Loth Special Landscape Area. Accordingly there is conflict with Policy 61 and Policy 67 of the HwLDP. Having said this, the applicant has agreed with the Council to reduce this impact by the complete removal of Turbine 15 and by lowering the height of Turbine 11 to 115m. This mitigation would lessen the adverse effects of the development to allow the Council on balance to consider the application acceptable overall.

10. RECOMMENDATION

10.1 It is recommended the Council raise no objection subject to:

A. An amendment of the scheme to remove Turbine 15 from the layout and to reduce Turbine 11 from 130m to 115m max blade tip height, and

B. The following conditions:

1. Except as otherwise required by the terms of the conditions set out in this decision, the development hereby approved shall be constructed and operated in accordance with the provisions of the application, its supporting Environmental Statement and in particular the layout of the development as set out in Figure 4.2 of Volume 3 of the Environmental Statement.

Reason: To ensure the development is carried out in compliance with the details as submitted and approved.

2. This planning permission shall expire after a period of 30 years from the date of final commissioning of the development ("commissioning"). Upon the expiration of a period of 25 years from commissioning, the wind turbines and other infrastructure shall be decommissioned and removed from the site, with decommissioning and restoration works undertaken in accordance with the terms of Condition 3 of this permission. Written confirmation of the First Export Date shall be submitted in writing to the Planning Authority within one month of commissioning.

Reason: Wind turbines have a projected lifespan of 25 years, after which their condition is likely to be such that they require to be replaced, both in terms of technical and environmental considerations. This limited consent period also enables a review and, if required, re-assessment to be made of the environmental impacts of the development and the success, or otherwise, of species protection, habitat management and other offered mitigation measures. The 30 year cessation date allows for a 5 year period to complete commissioning and site restoration work.

3. No development shall commence until a Decommissioning and Restoration Plan (DRP) for the site has been submitted to, and approved in writing by, the Planning Authority in consultation with SEPA. Thereafter and no later than 12 months prior to the decommissioning of the development, a finalised DRP,

based upon the principles of the approved plan and best practice guidance that exists at the time of decommissioning, shall be submitted to, and approved in writing by, the Planning Authority, in consultation with SEPA. The finalised Decommissioning and Restoration Plan shall be implemented as approved. For the avoidance of any doubt this permission and the associated DRP will also recognised the need to address any retained elements required from the initial Gordonbush Wind farm, which might otherwise have been decommissioned and restored in association with the DRP for that project.

Reason: To ensure that all wind turbines and associated development is removed from site should the wind farm become largely redundant; in the interests of safety, amenity and environmental protection.

4. No development shall commence until:

a) Full details of a bond or other financial provision to be put in place to cover all of the decommissioning and site restoration measures outlined in the Decommissioning and Restoration Plan approved under Condition 3 of this permission have been submitted to, and approved in writing by, the Planning Authority; and
b) Confirmation in writing by a suitably qualified independent professional that the amount of financial provision proposed under part (i) above is sufficient to meet the full estimated costs of all decommissioning, dismantling, removal, disposal, site restoration, remediation and incidental work, as well as associated professional costs, has been submitted to, and approved in writing by, the Planning Authority; and
c) Documentary evidence that the bond or other financial provision approved under parts (i) and (ii) above is in place has been submitted to, and confirmation in writing that the bond or other financial provision is satisfactory has been issued by, the Planning Authority.

Thereafter, the Wind Farm Operator shall:

- Ensure that the bond or other financial provision is maintained throughout the duration of this permission; and
- Pay for the bond or other financial provision to be subject to a review five years after the commencement of development and every five years thereafter until such time as the wind farm is decommissioned and the site restored.

Each review shall be:

- conducted by a suitably qualified independent professional; and
- published within three months of each five year period ending, with a copy submitted upon its publication to both the landowner(s) and the Planning Authority; and
- approved in writing by the Planning Authority without amendment or, as the case may be, approved in writing by the Planning Authority following amendment to their reasonable satisfaction.

Where a review approved under part (c) above recommends that the amount of the bond or other financial provision should be altered (be that an increase or decrease) or the framework governing the bond or other financial provision requires to be amended, the Wind Farm Operator shall do so within one month of receiving that written approval, or another timescale as may be agreed in writing by the Planning Authority, and in accordance with the recommendations contained therein.

Reason: To ensure financial security for the cost of the restoration of the site to the satisfaction of the Planning Authority.

5. The Wind Farm Operator shall, at all times after commissioning, record information regarding the monthly supply of electricity to the national grid from each 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:

    a. any wind turbine installed and commissioned fails to supply electricity on a commercial basis to the grid for a continuous period of 6 months, then unless otherwise agreed, 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 6 month period, be dismantled and removed from the site and the surrounding land fully reinstated in accordance with this condition; or

    b. the wind farm fails to supply electricity on a commercial basis to the grid from 50% or more of the wind turbines installed and commissioned and for a continuous period of 12 months, then the Wind Farm Operator must notify the Planning Authority in writing immediately. Thereafter, the Planning Authority may direct in writing that the wind farm shall be decommissioned and the application site 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 the approved Decommissioning and Reinstatement Plan (DRP), or as otherwise specified in writing by the Planning Authority.

Reason: To ensure that any redundant wind turbine is removed from site, in the interests of safety, amenity and environmental protection.

6. For the avoidance of doubt the turbines, access tracks and crane hard-standing areas may be micro sited but no more than 50 metres from the positions shown in the approved plan (Figure 4.2 of Volume 3 of the Environmental Statement) unless otherwise agreed in writing with the Planning

Authority in consultation with SEPA. Micro-siting will also be constrained to ensure 50m buffers are retained from all watercourses, except in the vicinity of the approved water crossings.

Reason: In order to clarify the terms of permission and allowing some flexibility in respect of the pre development assessment of deep peat and of Groundwater Terrestrial Dependent Eco-systems on the site.

7. No development shall commence until full details of the proposed wind turbines with internal transformers only, have been submitted to, and approved in writing by, the Planning Authority. These details shall include:

   a) The make, model, design, power rating and sound power levels of the turbines to be used; and
   b) The external colour and/or finish of the turbines to be used (incl. towers, nacelles and blades) which should be non-reflective pale grey semi-matt.

   Thereafter, development shall progress in accordance with these approved details and, with reference to part b) above, the turbines shall be maintained in the approved colour, free from external rust, staining or discolouration, until such time as the wind farm is decommissioned.

Reason: To ensure that the turbines chosen and built are suitable in terms of visual, landscape, noise and environmental considerations.

8. 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: To ensure that the turbines are not used for advertising, in the interests of visual amenity.

9. No development shall commence until full details of the location, layout, external appearance, dimensions and surface materials of all additional buildings, compounds and parking areas, as well as any external lighting, fuel storage, fencing, walls, paths and any other ancillary elements of the development, have been submitted to, and approved in writing by, the Planning Authority (in consultation with SEPA, as necessary). Thereafter, development shall progress in accordance with these approved details.

Reason: To ensure that all ancillary elements of the development are acceptable in terms of visual, landscape noise and environmental impact considerations.

10. No development shall commence until a site specific scheme for the working and restoration of the borrow pits forming part of the development has been submitted to and approved in writing by the Planning Authority in consultation with SEPA. The scheme shall include;

    a) A detailed working method statement based on site survey information and ground investigations;
    b) Details of the handling of any overburden (including peat, soil and rock);
    c) Drainage, including measures to prevent surrounding areas of peatland, water dependant sensitive habitats and Ground Water Dependant Terrestrial Ecosystems (GWDTE) from drying out;
    d) A programme of implementation of the works described in the scheme; and
    e) Full details of the temporary reinstatement, restoration and aftercare of the borrow pit(s) at the end of the construction period, to include topographic surveys of pre-construction profiles, and details of topographical surveys to be undertaken of the restored borrow pit profiles.

The approved scheme shall thereafter be implemented in full.

Reason: To ensure that excavation of materials from the borrow pit(s) is carried out in a manner that minimises the impact on road safety, amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented. To secure the restoration of borrow pit(s) at the end of the construction period.

11. Any blasting on site shall only take place on the site between the hours of 10.00 to 16.00 on Monday to Friday inclusive and 10.00 to 12.00 on Saturdays with no blasting taking place on a Sunday or on national public holidays, unless otherwise approved in advance in writing by the planning authority. Ground vibration from blasting shall not exceed a peak particle velocity of 6mm/second at agreed blasting monitoring locations. The measurement shall be the maximum of three mutually perpendicular directions taken at the ground surface.

Reason: To ensure that blasting activity is carried out within defined timescales to control impact on surrounding communities of interest.

12. No development shall commence until a scheme of aviation lighting is submitted to, and approved in writing by, the Planning Authority after consultation with the Ministry of Defence. Thereafter the approved scheme of aviation lighting shall be fully implemented on site. The Company shall provide both the Ministry of Defence and the Defence Geographic Centre (AIS Information Centre) with a statement, copied to the Planning Authority and Highland and Islands Airports Limited, containing the following information:

    (i) The date of commencement of the development;
    (ii) The exact position of the wind turbine towers in latitude and longitude;

(iii) A description of all structures over 300 feet high;
(iv) The maximum extension height of all construction equipment;
(v) The height above ground level of the tallest structure; and
(vi) Finalised details of an aviation lighting scheme, unless otherwise required, as agreed with the MOD and other aviation interests and the Planning Authority. This is expected to provide for all perimeter turbines being fitted with infra-red lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point; and 25 Candela red lighting on all of the cardinal wind turbines at the highest practicable point.

Reason: -To ensure that the erected turbines present no air safety risk and in a manner that is acceptable to local visual impact considerations.

13. No development shall commence until: -

a. The proposed route for any abnormal loads on the trunk road network is approved by the trunk roads authority and / or its Operating Company prior to the event. Any accommodation measures required including the temporary removal of street furniture, junction widening, traffic management etc. must similarly be approved. During the delivery period of the wind turbine construction materials any additional signing or temporary traffic control measures deemed necessary on the Trunk Road Network due to the size or length of any loads being delivered or removed must be undertaken by a recognised QA traffic management consultant, to be approved by Transport Scotland before delivery commences.

b. A finalised Traffic Management Plan, founded upon a detailed assessment of relevant roads, of the expected use of the local road network by all general construction traffic and abnormal load movements, with an appropriate package of mitigation / improvement works is agreed by the Planning Authority in consultation with the Local Roads Authority. This most likely will include: -

i. The prior provision of a wear and tear agreement including the posting of a financial bond for all delivery periods during construction, significant repairs and decommissioning. The agreement shall require joint (developer and Highland Council) before and after road condition surveys and regular monitoring of traffic levels and road conditions during the construction phase of the development.
ii. A risk assessment for transportation during daylight hours and hours of darkness.
iii. Traffic management and mitigation measures on the access route for example measures such as temporary speed limits, suitable temporary signage, road markings and the use of speed activated signs.

iv. A procedure for the regular monitoring of road conditions and the implementation of any remedial works required during the construction period.

v. A detailed delivery programme for abnormal load movements, which shall be made available to Highland Council and, as required, community representatives. This should be informed by a structural assessment of bridges, culverts and any other affected structures along the route shall be undertaken in consultation with the Council's Chief Structural Engineer.

vi. A detailed protocol for the delivery of abnormal loads/vehicles, prepared in consultation and agreement with interested parties, including Highland Council, the Police, Transport Scotland and, as required, community representatives. The protocol shall identify any requirement for convoy working and/or escorting of vehicles and include arrangements to provide advance notice of abnormal load movements in the local media. Temporary signage, in the form of demountable signs or similar approved, shall be established, when required, to alert road users and local residents of expected abnormal load movements. All such movements on Council maintained roads shall take place outwith peak times on the network, including school travel times, and shall avoid local community events.

vii. A contingency plan prepared by the abnormal load haulier. The plan shall be adopted only after consultation and agreement with the Police and the respective roads authorities. It shall include measures to deal with any haulage incidents that may result in public roads becoming temporarily closed or restricted.

viii. Measures to ensure that all affected public roads are kept free of mud and debris arising from the development.

The approved Traffic Management plan and requirements of the Trunk Road Authority shall thereafter be implemented in full, unless otherwise agreed in advance and in writing with the Planning Authority.

Reason: To maintain the safety and free flow of traffic on road networks as a result of the traffic moving to and from the development site in respect of its construction, on going maintenance and at decommissioning.

14. No development shall commence until a community liaison group is established by the developer, in collaboration with The Highland Council and affected local Community Councils. The group shall act as a vehicle for the community to be kept informed of project progress and, in particular, should allow advanced dialogue on the provision of all transport-related mitigation measures and to keep under review the timing of the delivery of turbine components. This should also ensure that local events and tourist seasons are considered and appropriate measures to co-ordinate deliveries and work with these and any other major projects in the area to ensure no conflict between construction traffic and the increased traffic generated by such events

/ seasons / developments. The liaison group, or element of any combined liaison group relating to this development, shall be maintained until the wind farm has been completed and is fully operational.

Reason: To assist with the provision of mitigation measures to minimise potential hazards to road users, including pedestrians, travelling on the road networks.

15. No development shall be commenced until an Outdoor Access Plan is submitted to and approved in writing by the Planning Authority. The purpose of the Outdoor Access Plan shall be to plan site tracks and paths to enhance public outdoor access. The Outdoor Access Plan shall be implemented as approved.

Reason: To ensure public access to the countryside is not unnecessarily impeded as a result of this development.

16. No development shall commence until a programme of work for the evaluation, preservation and recording of any archaeological and historic features affected by the proposed development, including a timetable for investigation, all in accordance with the attached specification (NOT ATTACHED), shall be submitted to and agreed in writing by the Planning Authority. The agreed proposals shall be implemented in accordance with the agreed timetable for investigation.

Reason: In order to protect the archaeological and historic interest of the site.

17. No development shall commence until a finalised Construction Environmental Management Document (CEMD) is submitted to and agreed in writing by the Planning Authority in consultation with SEPA. The document, principally formed of a series of site specific plans rather than written documentation, shall include:

- An updated Schedule of Mitigation (SM).
- Processes to control / action changes from the agreed Schedule of Mitigation.
- The following site specific Construction and Environmental Management Plans (CEMPs):

    a. Pollution Prevention Plan.
    b. Site Waste Management Plan.
    c. Temporary Drainage Plan.
    d. Water Quality Monitoring Plan.
    e. Watercourse Crossing Plan.
    f. Protected Species Protection Plans – including but not limited to breeding birds, otter, pine martin and water vole, founded upon pre construction survey for legally protected species carried out at an appropriate time of year for the species, at a maximum of 8 months preceding commencement of construction, and that a watching brief

is then implemented by the Ecological Clerk of Works (ECOW) during construction. The area that is surveyed should include all areas directly affected by construction plus an appropriate buffer to identify any species within disturbance distance of construction activity and to allow for any micro-siting needs.

g. Peat Management Plan, to include a plan for dealing with excavated peat and a plan for peat re-use/reinstatement

- Details of the appointment of an appropriately qualified Environmental Clerk of Works with roles and responsibilities which shall include but not necessarily be limited to:

  (i) Providing training to the developer and contractors on their responsibilities to ensure that work is carried out in strict accordance with environmental protection requirements;
  (ii) Monitoring compliance with all environmental and mitigation works and working practices approved under this consent;
  (iii) Advising the developer on adequate protection for environmental and nature conservation interests within, and adjacent to, the application site;
  (iv) Directing the placement of the development (including any micro-siting, as permitted by the terms of this consent) and the avoidance of sensitive features; and
  (v) The power to call a halt to development on site where environmental considerations warrant such action.

- Details of any other methods of monitoring, auditing, reporting and communication of environmental management on site and with the client, Planning Authority and other relevant parties.

- Statement of any additional persons responsible for 'stopping the job / activity' if in potential breach of a mitigation or legislation occurs.

Unless otherwise agreed in writing by the Planning Authority the development shall proceed in accordance with the agreed CEMD.

Reason: To protect the environment from the construction and operation of the development and secure final detailed information on the delivery of all site specific mitigation projects.

18. No development shall commence until details of how the existing Habitat Management Plan for the operational Gordonbush wind farm development will be extended through the operational lifetime of the additional turbines hereby approved, highlighting the key measures in progress and ongoing monitoring / management, has been submitted to, and approved in writing by, the Planning Authority in consultation with SNH. For the avoidance of doubt, such plan shall include forestry management activities, bracken control and deer management as well as elements of peat land restoration. The agreed plan shall be implemented.

Reason: To secure the continuing commitment to land/habitat management within the Estate onto the site of the extension in order to enhance the nature conservation interests of the area.

19. The rating level of noise immissions from the combined effects of the wind turbines hereby permitted and those of the existing Gordonbush Wind Farm (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 Table 1 attached to these conditions and:

    (A) Prior to the First Export Date, the wind farm operator shall submit 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.

    (B) Within 21 days from receipt of a written request of the Planning Authority, following a complaint to it alleging noise disturbance at a dwelling, the wind farm operator shall, at its expense, employ an independent 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 to which the complaint relates. Within 14 days of receipt of a written request from the Planning Authority made under this paragraph (B), the wind farm operator shall provide the information relevant to the complaint logged in accordance with paragraph (H) to the Planning Authority in the format set out in Guidance Note 1(e).

    (C) Where there is more than one property at a location specified in Tables 1 and 2 attached to this condition, the noise limits set for that location shall apply to all dwellings at that location. Where a dwelling to which a complaint is related is not identified by name or location in the Tables attached to these conditions, the wind farm operator shall submit to the Planning Authority for written approval, proposed noise limits to be adopted at the complainant's dwelling for compliance checking purposes. The proposed noise limits are to be those limits which the independent consultant considers as being the most appropriate. The submission of the proposed noise limits to the Planning Authority shall include a written justification of the choice of the representative background noise environment provided by the independent consultant. 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.

    (D) Prior to the commencement of any measurements by the independent consultant to be undertaken in accordance with these conditions, the wind farm operator shall submit to the Planning Authority for written approval the

proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken. Measurements to assess compliance with the noise limits set out in the Tables attached to these conditions or approved by the Planning Authority pursuant to paragraph (C) of this condition shall be undertaken at the measurement location approved in writing by the Planning Authority.

(E) Prior to the submission of the independent consultant's assessment of the rating level of noise immissions pursuant to paragraph (F) of this condition, the wind farm operator shall submit to the Planning Authority for written approval a proposed assessment protocol setting out the following:

(i) The range of meteorological and operational conditions (the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions.
(ii) A reasoned assessment as to whether the noise giving rise to the complaint contains or is likely to contain a tonal component.

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 information provided in the written request from the Planning Authority under paragraph (B), and such others as the independent consultant considers necessary to fully assess the noise at the complainant's property. The assessment of the rating level of noise immissions shall be undertaken in accordance with the assessment protocol approved in writing by the Planning Authority and the attached Guidance Notes.

(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 made under paragraph (B) of this condition unless the time limit is extended in writing by the Planning Authority. All data collected for the purposes of undertaking the compliance measurements shall be made available to the Planning Authority on the request of the Planning Authority. 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) of the attached Guidance Notes, 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 (F) above unless the time limit for the submission of the further assessment has been extended in writing by the Planning Authority.

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

Note: For the purposes of this condition, a "dwelling" is a building within Use Class 9 of the Use Classes Order which lawfully exists or had planning permission at the date of this consent.

Reason: To ensure that the noise impact of the as built turbines does not exceed the predicted noise levels in the interest of amenity, that the noise imissions will be monitored over time and there is sufficient scrutiny and assessment in the event that a complaint is received.

Table 1: Between 07:00 and 23:00 hours (Noise Level in dB $L_{A90, 10\text{-}min}$)

Location	**Wind Speed at Ten Metres Height, m/s, within the site averaged over 10-minute periods**								
	4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
	L_{A90} Decibel Levels								
Ascoile	20	25	29	32	33	33	33	33	33
Home Cottage	19	24	28	31	32	32	32	32	32
Keepers Cottage	18	22	27	29	30	30	30	30	30
Gordonbush Lodge	19	24	28	30	31	31	31	31	31
Moulin Cottage	20	24	29	30	31	31	31	31	31
Kilbraur	18	22	27	29	30	30	30	30	30

Table 2: Between 23:00 and 07:00 hours (Noise Level in dB $L_{A90, 10\text{-}min}$)

Location	**Wind Speed at Ten Metres Height, m/s, within the site averaged over 10-minute periods**								
	4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
	L_{A90} Decibel Levels								
Ascoile	20	25	29	32	33	33	33	33	33
Home Cottage	19	24	28	31	32	32	32	32	32
Keepers Cottage	18	22	27	29	30	30	30	30	30
Gordonbush Lodge	19	24	28	30	31	31	31	31	31
Moulin Cottage	20	24	29	30	31	31	31	31	31
Kilbraur	18	22	27	29	30	30	30	30	30

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

Location	Easting	Northing
Ascoile	282388	911191
Home Cottage	283540	910178
Keepers Cottage	284462	909584
Gordonbush Lodge	284596	909817
Moulin Cottage	282480	910888
Kilbraur	282377	910024

Note to Tables 1 and 2: The wind speed standardised to 10 metres height within the site refers to wind speed at 10 metres height derived in accordance with the method given in the attached Guidance Notes.

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

Informative

1. The applicant is recommended that prior to the submission of information to discharge pre-commencement conditions it seeks a joint meeting with the Council and other relevant agencies such as SNH and SEPA to determine the most efficient and effective way to deliver the information required.

Signature: Malcolm MacLeod

Designation: Head of Planning and Building Standards

Author: Ken McCorquodale, Principal Planner (01463) 702256

Background Papers: Documents referred to in report and in case file.

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 $L_{A90,10\ minute}$ noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The $L_{A90,10\ minute}$ measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

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

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

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

Guidance Note 2

(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)

(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 measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the $L_{A90,10\ minute}$ noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

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

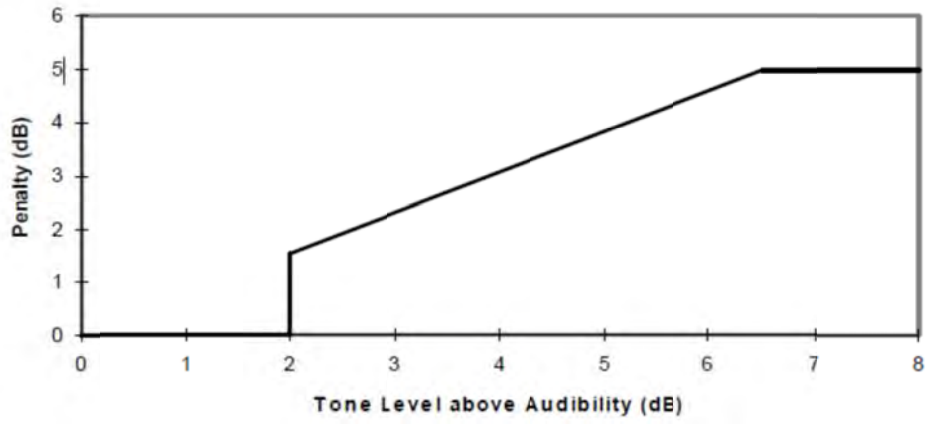
(b) For each 10 minute interval for which $L_{A90,10\ minute}$ data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided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

(c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104109 of ETSU-R-97.

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

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

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



Guidance Note 4

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

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

(c) In the event that the rating level is above the limit(s) set out in the Table 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 (including the existing Gordonbush turbines) are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

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

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

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

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

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

sse

ash

Key

- Site Boundary
- Proposed Wind Turbine (130m Blade Tip)
- Proposed Wind Turbine (115m Blade Tip)
- Existing Wind Turbine
- Proposed Permanent Meteorological Mast

Access Tracks

- Existing
- Cut
- Float
- Indicative Passing Places
- Indicative Hardstanding
- Proposed Operations Building and Temporary Construction Compound
- Proposed Batching Plant
- Existing Substation
- Borrow Pits

Scale 1:25,000 @ A3

0 0.2 0.4 Kilometers

N

Figure 4.2
Site Layout

Gordonbush Extension Wind Farm
Environmental Statement

sse

open
optimised environments

Key

- Gordonbush Extension Turbines
- 5km Radii
- Gordonbush Extension 35km Study Area Boundary
- 60km Radius

Wind Energy Development Status (February 2015)

- Turbine Locations
- Gordonbush Extension Site Boundary
- Operational
- Consented
- Application
- Scoping
- Area of Search

Data Sources:
The Crown Estate (2014)
Highland Council (2014)
Only turbines greater than 50m in height are included.

Scale 1:450,000 @ A3

0 5 10 20 km

N

Figure 7.15
CUMULATIVE WIND FARM LOCATIONS

Gordonbush Extension Wind Farm
Environmental Statement

P:\2014\140668_GordBex\GIS\ArcGIS\ArcMap\LVIA_FIGURES\140668_GBExtn_LVIA_Fig7_15_CWF.mxd

sse

ash

Key

- Site Boundary
- Proposed Wind Turbines
- Existing Gordonbush Wind Turbines
- Existing Access Tracks
- New Access Tracks
- Site Access From A9

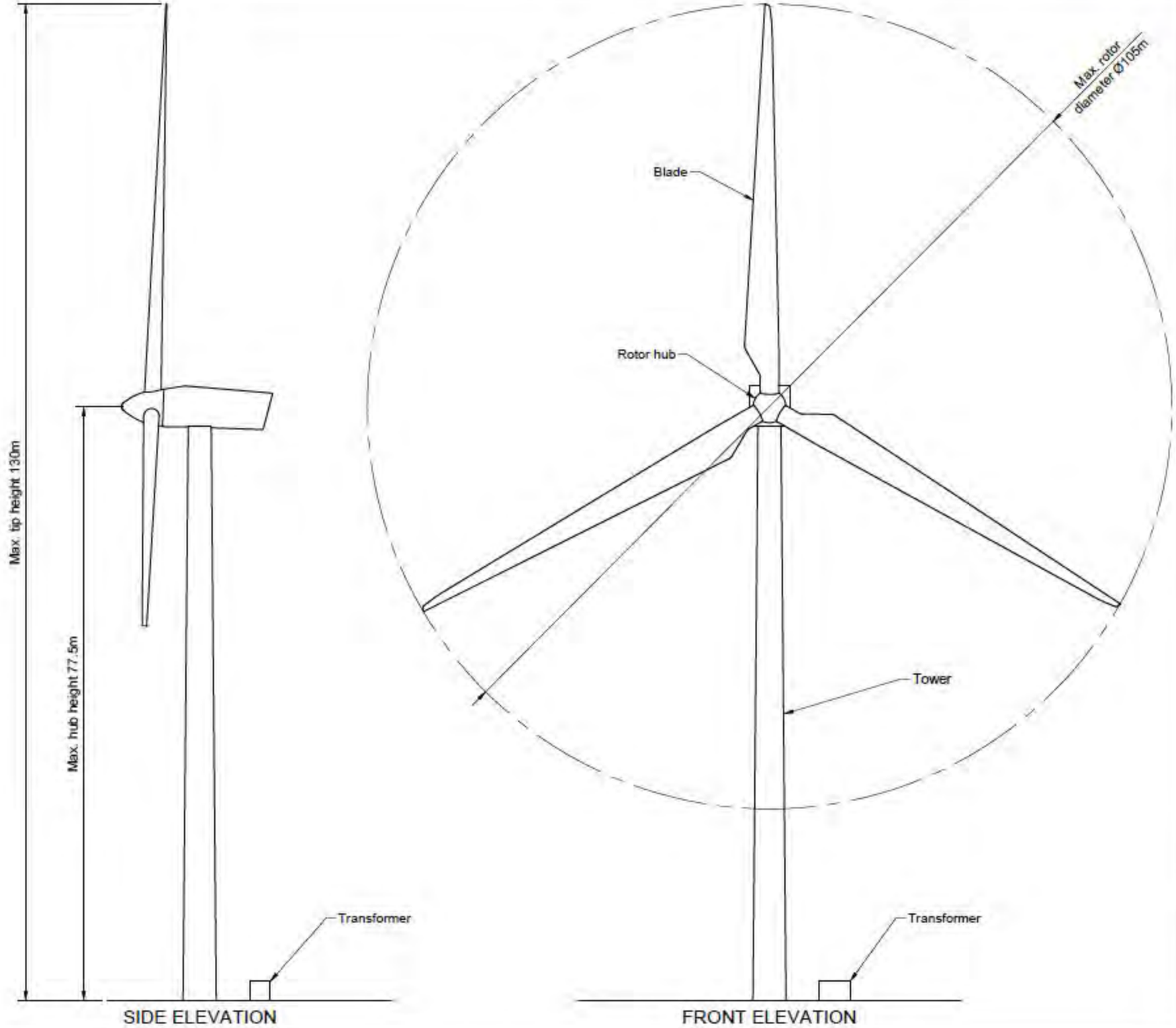
Scale 1:100,000 @ A3

0 1 2 3 Kilometers

N

Figure 4.1
Site Context

Gordonbush Extension Wind Farm
Environmental Statement



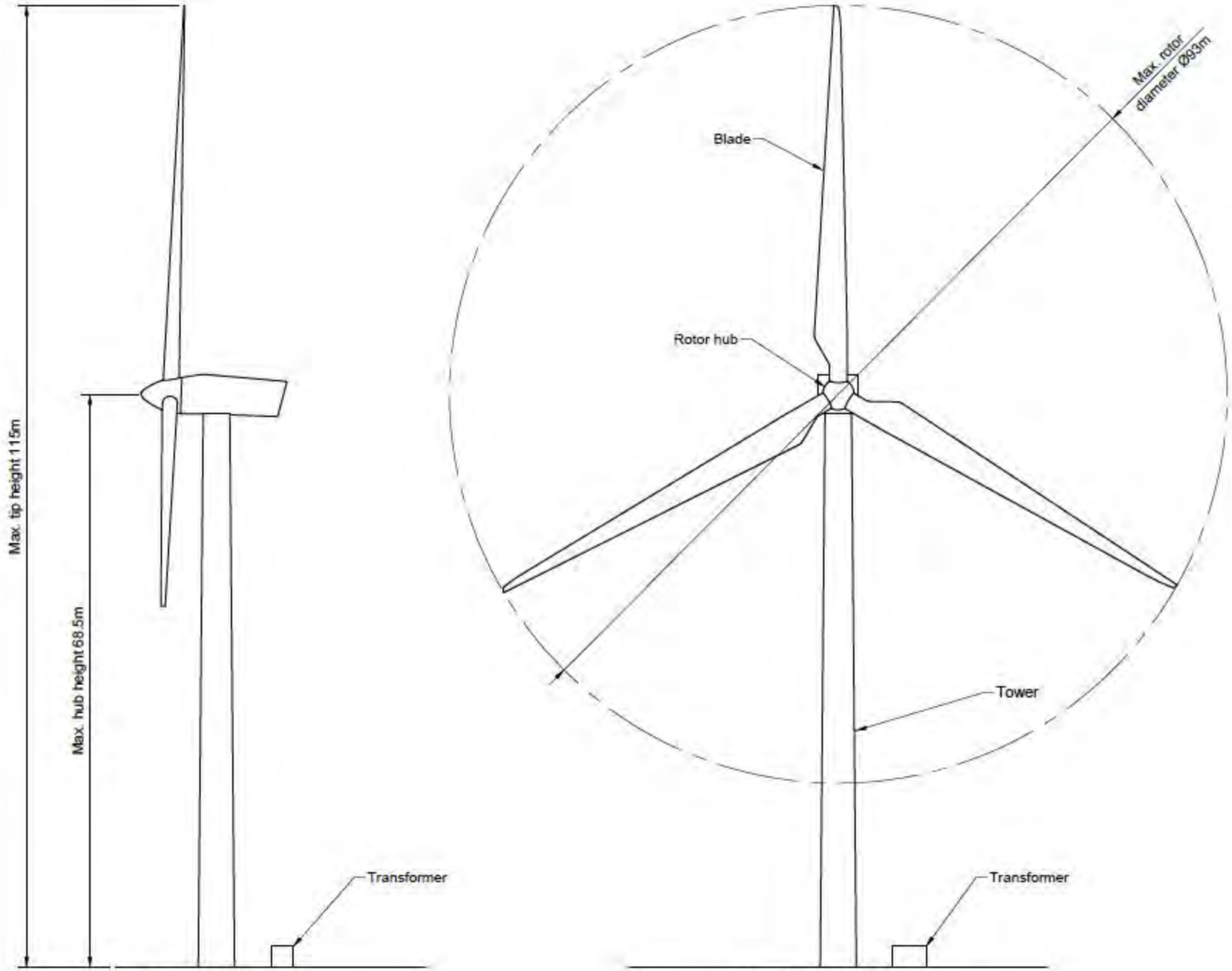
sse

Scale 1:500 @ A3

0 5 10 15 20m

Figure 4.3a
Typical WTG Dimensions

Gordonbush Extension Wind Farm
Environmental Statement



Scale 1:500 @ A3

0 5 10 15 20m

Figure 4.3b
Typical WTG Dimensions

Gordonbush Extension Wind Farm
Environmental Statement

Viewpoint 1: Beinn Smeorail

Distance to nearest turbine: 1.602km Camera: EOS 5D II Focal length: 75mm Camera height: 1.5m Date: 11/07/14 Time: 08:39

This image should be viewed at a comfortable arm's length (approx. 500mm).

Viewpoint 6: Brora to Rogart minor road near Sciberscros

Distance to nearest turbine: 5.858km Camera: EOS 5D II Focal length: 75mm Camera height: 1.5m Date: 23/07/14 Time: 18:58

This image should be viewed at a comfortable arm's length (approx. 500mm).

Viewpoint 12: Track to Ben Armine Lodge

Distance to nearest turbine: 7.973km Camera: EOS 5D II Focal length: 75mm Camera height: 1.5m Date: 17/10/14 Time: 17:12

This image should be viewed at a comfortable arm's length (approx. 500mm).

Viewpoint 2: Loch Brora (south-west side)

Distance to nearest turbine: 3.981km Camera: EOS 5D II Focal length: 75mm Camera height: 1.5m Date: 23/07/14 Time: 16:28

This image should be viewed at a comfortable arm's length (approx. 500mm).

Viewpoint 3: Brora to Rogart minor road south of Killin

Distance to nearest turbine: 6.526km Camera: EOS 5D II Focal length: 75mm Camera height: 1.5m Date: 25/03/15 Time: 14:15

This image should be viewed at a comfortable arm's length (approx. 500mm).

sse

open
optimised environments

Key

- Gordonbush Operational Turbines
- Gordonbush Extension Turbines
- 5km Radii
- Gordonbush Extension 35km Study Area Boundary
- National Scenic Area
- Special Landscape Area
- Garden & Designed Landscape

Gordonbush Extension Blade Tip ZTV

No. of turbines that are theoretically visible

- 1 - 4
- 5 - 8
- 9 - 12
- 13 - 16

Data Sources:
Scottish Government (2013)
Highland Council (2012)
Historic Scotland (2014)

Blade tip height:	115/130m	Observer height:	1.5m
DTM:	OS TS	Surface features:	Excluded
DTM resolution:	10m	Earth curvature:	Included

Scale 1:275,000 @ A3

0 2.5 5 10 km

N

Figure 7.11
LANDSCAPE DESIGNATIONS WITH ZTV

Gordonbush Extension Wind Farm
Environmental Statement

P:\2014\140668_GordBEx\GIS\ArcGIS\ArcMap\LVIA_FIGURES\140668_GBExtn_LVIA_Fig7_11_Designations_ZTV.mxd

sse

open
optimised environments

Key

- Gordonbush Operational Turbines
- Gordonbush Extension Turbines
- 5km Radii
- Gordonbush Extension 35km Study Area Boundary

Gordonbush Extension Blade Tip ZTV

No. of turbines that are theoretically visible

- 1 - 4
- 5 - 8
- 9 - 12
- 13 - 16
- Viewpoint

1	Beinn Smeorail
2	Loch Brora (south-west side)
3	Brora to Rogart minor road south of Killin
4	Brora to Rogart minor road north of Killin
5	Strath Brora near Balnacoil
6	Brora to Rogart minor road near Sciberscross
7	Brora to Rogart minor road near Dalreavoch
8	Craggie Beg
9	Ben Horn
10	Beinn Dhorain
11	Hope Hill
12	Track to Ben Armine Lodge
13	Creag nam Fiadh
14	Ben Bhraggie
15	Ben Armine
16	Portmahomack
17	Ben Griam Beg

Blade tip height:	115/130m	Observer height:	1.5m
DTM:	OS TS	Surface features:	Excluded
DTM resolution:	10m	Earth curvature:	Included

Scale 1:275,000 @ A3

0 2.5 5 10 km

N

Figure 7.8a
BLADE TIP ZTV WITH VIEWPOINTS

Gordonbush Extension Wind Farm
Environmental Statement

P:\2014\140668_GordBEx\GIS\ArcGIS\ArcMap\LVIA_FIGURES\140668_GBExtn_LVIA_Fig7_8a_BT_ZTV.mxd