Forestry

Background

Pre-application advice for the proposed Development was requested from the Highland Council (THC) and a response provided in March 2019. Key aspects in relation to forestry are summarised here.

THC has stated that "*key-holing must be used wherever possible as large scale felling can result in large amounts of waste material and in a peak release of nutrients which can affect local water supply*". They also state that "*clear felling may be acceptable only in cases where planting took place on deep peat and it is proposed through a habitat management plan to reinstate peat-forming habitats*". The Pre application advice provided by THC also states that "*We would expect forestry removal to enable peatland restoration by reinstating forestry to bog habitat where appropriate*"

THC also identified that the Site contains areas of blanket bog listed as Class 1 peatland. The survey of peat being carried out by RSK will establish how much damage to the peat has been caused by the forestry plantations and how much (if any) of the Site would benefit from reinstating to an area of peatland. Once this is known, it will be possible to calculate the area of the plantations that need to be felled. This will clearly have a direct bearing on the amount of compensation planting that may be needed to comply with the Scottish government's policy on felling as set out in their publication – 'Control of Woodland Removal'

This Site is largely stocked with middle aged conifers and the aim will be to carry out keyhole felling to accommodate the turbines wherever possible to avoid adverse environmental impacts; this will also minimise both the amount of felling and the area of Compensation Planting (CP) that may be required. It is thought that keyhole felling as opposed to the alternative of clear felling will not have too great an impact on turbine efficiency.

A complete forestry assessment will be carried out to provide the information required by THC and to provide all the necessary advice and information, including a complete assessment of the growing stock and the volume of timber that would need to be felled, as required for the EIA.

Consultant Experience and Expertise

The technical lead for Forestry will be Roy Dyer from RSK. Roy is a Chartered Forester and is the Director of the arboriculture and forestry team. Before joining the company, Roy was the Head Forester on a 1,000ha forestry estate on the borders of Devon and Cornwall – The Tavistock Woodlands Estate owned by the Earl of Bradford.

Roy is a highly experienced forester and nationally recognised consultant in forestry management. With over 50 years' experience Roy covers all aspects of forestry management. He currently specialises in providing operational and policy advice to electricity Distribution Network Operators including Scottish Power Energy Networks and Scottish and Southern Energy. Roy also has considerable experience in providing technical forestry support for RSK's EIAs in relation to windfarms and other renewable energy projects.

Baseline

The Site extends to 9186hectares approximately and is comprised largely of mid rotation commercial forestry plantations. The aerial view shows that there is also a considerable amount of open moorland intermixed with the plantations. In the northern part of the woodland there is also some areas classed as wet woodland, upland birchwood and acid grassland and the Site also includes a Site of Special Scientific Interest (SSSI).

Forestry Scotland's map viewer shows that Woodland Grant Scheme applications were made in 1993, 1994 and 1995 covering most of the Site. The applications are all now closed and there is very little information other than the information on the two separate WGS2 applications and the WGS3 application:

- WGS2 Application made in 1993 on behalf of Phillips Mains covering the northern section. This application was approved for woodland establishment.
- WGS2 Application made in 1994 on behalf of Phillips Mains (property name) covering the NE section that surrounds the SSSI. This application was for "approved re-stocking and/or management".

- WGS3 Application made in 1995 on behalf of Phillips Mains covering the southern section. This application was also for woodland establishment.

Although there is no information on the species planted at present, it is assumed that the species is wholly or mainly Sitka spruce as this is the commercial species most suitable for the Site. If the trees were planted in the year the WGS applications were made, they would now be 25 – 27 years old, which means they are middle aged plantations that are half way through a normal commercial rotation.

In 2019 an application was made to Scottish Forestry to clear fell 52.22 ha of what was presumably mature conifer plantation woodlands in the corner of the woodland between the SSSI and the Hill of Rifiga. This area is now either about to be felled, waiting to be planted or recently planted.

Within the Site there is also the Phillips Mains Mire SSSI designated for its blanket bog habitat.

As regards Scottish Forestry, the Site is within the Highlands and Islands Conservancy, Woodlands, Fodderty Way, Dingwall, IV15 9XB.

Potentially Significant Effects

There are four key effects in relation to the tree felling that would be required to accommodate the wind turbines:

1) The tree clearance would involve the felling of trees prematurely. This would result in a loss of Net Present Value for the landowner

2) Once the windfarm has been designed and the locations of the turbines is known, it will be possible to establish the area of tree clearance and the volume of timber that would be removed.

3) The peat survey is expected to confirm what damage the plantations have caused to the peatland and what opportunity there is to clear-fell trees and reinstate peatland.

4) Consideration will need to be given towards what CP is required. The area of CP will depend on:

    a) Whether the restoration of peatland can form part or all of the CP commitment or

    b) Whether peatland restoration will not be proposed and the full area of CP is required.

Any felling would affect the structure of the woodland and the landowners forestry management plans including production forecasts which would need to be amended accordingly.

The effect of the felling on the stability of the plantations will also be assessed. This will be carried out using the Forestry Commissions Forest GALES wind risk decision support tool. All opportunities to mitigate the effect of windblow on the retained plantations will be explored and would be adopted wherever possible.

Proposed Assessment Methodology and Approach

A more detailed desk study will be carried out in the first instance. This will include reference to the National Forest Inventory Woodlands. There appears to be no formal management plan that has been submitted to Scottish Forestry, but if any existing forestry management plans are available, the data will be analysed and recorded as necessary.

A full site inspection will be carried out. Part of the assessment will involve the collection of sufficient data to enable calculations to be made on the volume and quality of timber to be removed. This will include noting the tree species present, measuring sufficient top heights of the trees to establish the yield classes of the plantations and taking relascope sweeps within the plantations to establish the stocking density.

Some of the mensuration information will be fed into the Forestry Commission's wind risk support tool along with other information, such as grid reference, soil type, edge effect etc. and this will confirm the level of wind risk, which will have a direct bearing on the felling plans.

The inspection will also investigate whether there are any areas within the Site that could be planted up if compensation planting is required.

Consideration will also be given to the environmental effect of the tree felling including how best to dispose of the residues.

All advice and any subsequent forestry work undertaken will fully comply with the UK Forestry Standard and guidelines and all other relevant legislation.

Discussions will be held with the landowner/landowner's agent, THC Forestry Officer and Forestry Scotland as required.

A forestry appendix or chapter for the EIA will be prepared. In accordance with the Highland Council's requirements, the forestry technical appendix/chapter will include:

a) A map demarcating the areas to be subject to different felling techniques.

b) Photography of general timber condition in each of these areas.

c) A table of approximate volumes of timber that would be removed from site and volumes, sizes of chips or brash and depths that would be re-used onsite.

d) A plan showing how and where any timber residues would be re-used for ecological benefit within that area, supported by a Habitat Management Plan.

Issues to be Scoped In or Out

If a sub-compartment plan is available, we will make full use of the information. However, if a sub-compartment plan is not available, we do not consider that it is necessary to create one as we will have sufficient information for the EIA from the site survey and other sources of information, such as the Scottish Forestry Map Viewer, the National Forestry Inventory Woodlands, aerial photographs etc.

We will include a full assessment in relation to the forest removal and forest waste, taking into account the following advice from the Highland Council:

- Key-holing must be used wherever possible as large-scale felling can result in large amounts of waste material and in a peak release of nutrients, which can affect local water quality. If clear felling is unavoidable then the potential impact this will have on water quality will be considered in the water quality assessment as part of the hydrology, hydrogeology, geology and soils section of the EIA.
- Clear felling may be acceptable only in cases where planting took place on deep peat and it is proposed through a Habitat Management Plan to reinstate peat-forming habitats.

Consultees

The consultee below will be approached for information to inform the EIA. This consultee may also be contacted by the Scottish Government regarding the scope of the EIA:

- Scottish Forestry
- The Highland Council

Consultee Questions

- Do consultee agree with the proposed methodology and scope of the forestry assessment?
- Do consultees have any information that should be taken into account within the forestry assessment?
- Please confirm any additional requirements that you consider should be included in this element of the EIA, that have not been covered in the fact sheet

Relevant Policy and Guidance

The assessment will be undertaken in accordance with the following relevant legislation and guidance:

- Scottish Executive (2006) Scottish Forestry Strategy
- The Highland Council (2018) Highland Forest and Woodland Strategy
- Forestry Commission (1996) Technical Paper 16: Designing Forest Edges to Improve Wind Stability
- Forestry Commission (2009) The Scottish Government's Policy on Control of Woodland Removal
- Forestry Commission (2015) Guidance to Forestry Commission Scotland staff on implementing the Scottish Government's Policy on Control of Woodland Removal
- The Highland Council (2013) Trees, Woodlands and Development supplementary guidance

- Scottish Environment Protection Agency (2014) Land Use Planning System SEPA Guidance Note LUPS-GU27 – Use of Trees Cleared to Facilitate Development on Afforested Land
- Forestry Commission (2017) The UK Forestry Standard – The Government's Approach to Sustainable Forestry
- Forestry Commission (1981) Yield Models for Forest Management
- Forestry Commission Scotland. Pers.com. email from Donald MacLeod, Woodland Officer, dated 24/01/19
- Forestry Commission Scotland. Pers.com. email from Agata Baranska, Regulations & Development Manager, dated 24/01/19