8. Technical Appendix 8.3: Habitats Regulations Appraisal and Appropriate Assessment

8.1 Introduction

8.1.1 The Proposed Development has potential connectivity with the Monadhliath Special Area of Conservation (SAC) and Ness Woods SAC. As a result, in addition to the ecological impact assessment detailed in Chapter 8: Ecology, there is a requirement for the completion of a Habitats Regulations Appraisal (HRA).

8.1.2 This Technical Appendix provides the information required pursuant to the Conservation (Natural Habitats &c.) Regulations (1994) for the Competent Authority to establish whether or not the construction, operation and decommissioning of the Proposed Development would be likely to have a significant effect on the integrity[1] of these European sites in view of best scientific knowledge and with regards to the conservation objectives of the European sites, specifically the species for which the sites were designated and the habitats upon which they depend. This Technical Appendix should be read in conjunction with the accompanying Chapter and figures.

8.2 Objectives of Report

8.2.1 The purpose of this Technical Appendix is:

- to assess the potential impacts upon the designated nature conservation sites from the construction, operation and decommissioning of the Proposed Development (this assessment is known as the screening stage);
- to consider whether the Proposed Development has the potential to impact the integrity of the designated nature conservation sites or their conservation objectives and whether there is the potential for likely significant effects to result from these impacts; and
- to outline the mitigation measures proposed by which significant effects for the qualifying interest species of the sites would be avoided or reduced to non-significant levels.

8.3 Alternatives

8.3.1 A summarised review of the preferred technical solution and site selection options was completed by the Applicant, as detailed in Chapter 2: Site Selection and Design Evolution.

8.4 Habitats Regulations Appraisal

Monadhliath SAC

8.4.1 The Monadhliath SAC (site code 8324) (SNH, 2019d) was designated in 2005 and covers an area of 10,672.34ha.

[1] In this case is taken to be the "coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is designated".

Qualifying Interest of the SAC

8.4.2 The qualifying interest of the SAC is blanket bog. The Monadhliath SAC supports one of the most extensive areas of high-altitude blanket bog in the UK. However, a significant proportion of the bog is eroded, with extensive areas of gullying. The vegetation reflects the high altitude, with species including woolly hair-moss (*Racomitrium lanuginosum*), mountain crowberry (*Empetrum nigrum sp. hermaphroditum*) and bilberry (*Vaccinium myrtillus*). Other habitats include inland waterbodies, fens, heath and alpine grassland.

Site Condition and Monitoring

8.4.3 The blanket bog is considered to be in an unfavourable condition based on monitoring completed by Scottish Natural Heritage (SNH) in 2004. The main negative pressure on the habitat is considered to be trampling by people and deer.

Conservation Objectives

8.4.4 The conservation objectives of the Monadhliath SAC are:

- to avoid deterioration of the qualifying habitat thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- to ensure for the qualifying habitat that the following are maintained in the long-term:
  - extent of the habitat on site;
  - distribution of the habitat within site;
  - structure and function of the habitat;
  - processes supporting the habitat;
  - distribution of typical species of the habitat;
  - viability of typical species as components of the habitat; and
  - no significant disturbance of typical species of the habitat.

Potential Impacts

8.4.5 The SAC runs adjacent to the site boundary of the Proposed Development. At its closest point, it occurs 50m to the south-east from a proposed LiDAR unit and associated access track. No direct impacts have been identified, though construction of the Proposed Development could result in indirect impacts.

8.4.6 No operational impacts are predicted as any maintenance activities would access the Proposed Development from permanent access tracks established during construction. The closest access track occurs 50m to the north-west of the SAC.

Habitat Modification

8.4.7 Due to the proximity of the Proposed Development to the SAC, indirect impacts are possible in the form of habitat modification from dust and other pollutants, leading to damage of the blanket bog habitat as a result of harmful chemical pollutants or the smothering of smaller plant species in silt or dust deposits. However, this is considered to be a low magnitude, short-term impact on a small proportion of the SAC and the effect is considered to be **not significant**.

8.4.8 Construction may also lead to the localised and temporary displacement of red deer into the SAC, which would cease following the completion of construction, with deer likely to move back into the displaced area. During the period of displacement, the blanket bog of the SAC could be damaged by trampling and grazing. As the bog is already considered to be in an unfavourable condition due to trampling, the displacement of deer is considered likely to result in a **significant adverse effect**.

Hydrological Connectivity

8.4.9 Polluted run-off entering the groundwater or nearby watercourses is not considered to impact the SAC due to the topography, whereby the SAC is located uphill from the Proposed Development. Any pollution or silt-laden run-off would flow away from the SAC.

8.4.10 Disturbance or removal of peat in the vicinity of the SAC could affect the water table of the blanket bog in the SAC due to the hydrological conductivity of peat whereby drainage effects could lead to the loss of water from the blanket bog within the SAC. The extent and magnitude of the effect would depend on the depth and extent of the disturbance and the hydrological conductivity of the peat i.e. how fast water is drawn through the peat. Drainage effects can occur up to 50m on fibrous peat but as low as 5m on decomposed peat (Scottish Government, 2008). As the majority of peat in the study area has extensive hagging and the closest location of the Proposed Development to the SAC is a LiDAR unit and access track 50m away, this effect is considered to be **not significant**.

Ness Woods SAC

8.4.11 Ness Woods SAC (site code 8337) (SNH, 2019e) was designated in 2005 and covers an area of 841.38ha.

Qualifying Interests of the SAC

8.4.12 The qualifying interests of the SAC are otter, western acidic oak woodland containing old sessile oak (*Quercus petraea*) with holly (*Ilex sp.*) and ferns (*Blechnum sp.*), and mixed woodland on base-rich soils containing lime-sycamore (*Tilio-Acerion*) associated with slopes, screes and ravines, which is a priority habitat. The SAC includes one of the most extensive examples of a ravine woodland in Scotland at Glen Tarff. The canopy is a mixture of alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and wych elm (*Ulmus glabra*), with a hazel (*Corylus avellana*) shrub layer (Joint Nature Conservation Committee (JNCC), 2019). The ground flora is dominated by ferns, mosses and herbaceous plants, and the woods contain lichens, liverworts and mosses with Atlantic affinities.

Site Condition and Monitoring

8.4.13 Otter are considered to have an unfavourable declining status based on monitoring completed by SNH in 2011, with the main negative pressure considered to be development. The western acidic oak woodland and mixed woodland are considered to have unfavourable status based on monitoring completed by SNH in 2008. Negative pressures include overgrazing.

Conservation Objectives

8.4.14 The conservation objectives of Ness Woods SAC are:

- to avoid deterioration of the qualifying habitats thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- to ensure for the qualifying habitats that the following are maintained in the long-term:
  - extent of the habitat on site;
  - distribution of the habitat within site;
  - structure and function of the habitat;
  - processes supporting the habitat;
  - distribution of typical species of the habitat;
  - viability of typical species as components of the habitat; and
  - no significant disturbance of typical species of the habitat.

Potential Impacts

8.4.15 The SAC occurs 3.73km to the west of the Proposed Development at its closest point and the habitats are separated by open moorland and a steep ravine, therefore no direct impact pathway has been identified. Glendoe Reservoir, which occurs within the site boundary, discharges into the River Tarff to the west, outwith the site boundary. Otter from the SAC are likely to travel between these watercourses and waterbodies and indirect impacts are possible.

Disturbance

8.4.16 Otter are known to occur on the River Tarff, where it occurs in the site boundary, with a resting area containing spraints and a potential holt recorded during surveys, approximately 129.2m and 370.4m to the north of where the Proposed Development crosses the river, respectively. No holts or other protected dwellings were recorded within 100m in the western cluster of the Proposed Development and construction would generally not involve any works within the watercourse or works within a buffer of 50m around watercourses, excluding watercrossings. As a result, any disturbance would be low magnitude and short-term and is not considered to result in a likely significant effect.

Pollution/Sedimentation

8.4.17 Construction of the Proposed Development in the form of a batching plant, turbines and access tracks in the vicinity of the reservoir has the potential to result in pollution or silt-laden run-off entering the reservoir, leading to a deterioration in water quality. As the reservoir drains into the River Tarff that runs through Glen Tarff and the SAC, it is possible that a deterioration in water quality could affect otter in the SAC, primarily through the loss of prey species. However, the potential for a significant effect is considered to be extremely low as the magnitude of the pollution event on-site would need to be extremely high to have a significant effect on the SAC due to the length of the impact pathway, which comprises 4.76km, and subsequent dilution through the reservoir and watercourses. In this case, the most likely impact pathway is considered to be from the proposed batching plant north of Glendoe Reservoir, with pollution entering the reservoir from this location and discharging into the River Tarff to the west beyond the dam. Furthermore, construction would generally not involve any works within the watercourse or works within a buffer of 50m around watercourses, excluding watercrossings, which would be designed appropriately to minimise disturbance and pollution of the

watercourse. As a result, the impact pathway is not considered to have a strong connection to the SAC and pollution/sedimentation is considered unlikely to result in a significant effect.

Conclusions of the HRA

8.4.18 Potential impacts upon the qualifying species of the Monadhliath SAC and Ness Woods SAC resulting from the construction or decommissioning of the Proposed Development are considered possible. These impacts, namely habitat modification, pollution events and disturbance, are not considered to have the potential to result in significant adverse effects to the integrity, conservation objectives or qualifying species of Ness Woods SAC. However, there is potential for significant effects to the Monadhliath SAC through habitat modification due to the displacement of deer leading to trampling and grazing on blanket bog habitat already in an unfavourable condition. As a result, an Appropriate Assessment (AA) is not considered necessary for Ness Woods SAC but is required for the Monadhliath SAC.

8.5 Appropriate Assessment

8.5.1 A potential indirect impact pathway is present from the temporary and short-term displacement of red deer into the Monadhliath SAC during construction and decommissioning. No construction or decommissioning would occur within the boundary of the SAC but a permanent LiDAR unit and associated access track, and a turbine and hardstanding area are located 50m and 93m from the SAC, respectively, at their closest points. Unmitigated, construction of the Proposed Development has the potential to affect the SAC and its qualifying habitat.

8.5.2 No significant adverse effects are considered to occur from other potential impacts on the Monadhliath SAC, or on Ness Woods SAC.

8.6 Mitigation and Good Practice Measures

Deer Management Plan

8.6.1 A deer management plan has been prepared and is provided in Technical Appendix 8.5. The management plan provides detailed measures on the management of deer numbers to prevent damage of the blanket bog habitat in the SAC from trampling and grazing. This management plan has been prepared in conjunction with the existing deer management plan for Stronelairg Wind Farm, which is provided for reference as Technical Appendix 8.7, and the wider Strategic Deer Management Plan (SDMP) prepared by the Monadhliath Deer Management Group (MDMG), which is provided for reference as Technical Appendix 8.8.

Construction Environmental Management Plan (CEMP)

8.6.2 A CEMP would be developed to provide a framework for the management of environmental impacts including those on ecological features such as the Monadhliath SAC. A draft CEMP is provided in Technical Appendix 3.1 and would be developed by the Applicant, the contractor and a suitably qualified Ecological or Environmental Clerk of Works (ECoW) as the detailed design for the Proposed Development is established. Standard mitigation and pollution prevention measures and good practice, as described in the CEMP, would be implemented during the construction and decommissioning work to ensure the integrity of the SAC is not affected by pollution, siltation or dust.

8.6.3 The methods of working outlined in the CEMP to protect the SAC are as follows:

- fuel deliveries and refuelling would be undertaken by trained staff in a designated bunded area with an impermeable base. All fuel-related activities would take place more than 50m away from the SAC and any watercourse, unless previously agreed with the ECoW;
- all reasonable steps would be taken to prevent the transport of sediments or other matter disturbed by the construction work. Where possible, works would be undertaken during drier periods and avoid periods of high rainfall. Where a high level of dust is produced from vehicle movements on access tracks, the tracks would be sprayed with water to minimise dust formation; and
- spill kits would be available on all plant on the site as well as at any pollution sources and sensitive features.

8.7 Conclusions

8.7.1 The Proposed Development has the potential to impact the Monadhliath SAC and Ness Woods SAC through habitat modification, pollution and disturbance. However, only habitat modification through red deer displacement has the potential to result in a significant adverse effect on the blanket bog habitat of the Monadhliath SAC. Standard pollution prevention measures detailed in a site-specific CEMP would avoid pollution from entering both SACs. Mitigation measures detailed in a deer management plan would manage deer numbers and displacement to minimise damage to blanket bog habitat during construction and decommissioning. Deer are likely to return to previously displaced areas once construction is complete and the Proposed Development is unlikely to cause substantial or significant changes in deer movements during operation. This would mean that no significant adverse residual effects would remain on the Monadhliath SAC or its qualifying habitat following mitigation.