SEPA
Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

Our ref: PCS/172822
Your ref: ECU00001844

If telephoning ask for:
Alison Wilson

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Theresa McInnes
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By email only to: Econsents_admin@gov.scot

Dear Ms McInnes

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017
ELECTRICITY ACT 1989 SECTION 36: APPLICATION FOR THE PROPOSED ENERGY ISLES WIND FARM ON THE ISLAND OF YELL IN THE PLANNING AUTHORITY AREA OF SHETLAND ISLANDS COUNCIL – SUPPLEMENTARY INFORMATION

Thank you for your consultation email which SEPA received on 31 August 2020, advising of the submission of Supplementary Environmental Information (SEI), dated August 2020. We thank you and the applicant for the additional time to assess this.

Advice for the determining authority

In general we are supportive of renewable energy projects, but this is dependent on site specific impacts. The submission of the above information has demonstrated that the proposed development is located on extensive high quality blanket bog, in excellent condition, and actively sequestering carbon from the atmosphere (i.e. taking it out of the air and storing it in the peat).

The proposed windfarm would therefore lead to avoidable carbon emissions. SEPA and Shetland Islands Council have a Climate Change Duty to deliver their functions in such a way as to support achievement of net zero emissions by 2045, and the interim targets - as specified in the Climate Change (Scotland) Act 2009 (as amended by the Emissions Reduction Act 2019). In carrying out this duty we must, along with Shetland Islands Council, act to protect areas of pristine, active blanket bog.

As such, unfortunately, we must now **object in principle** to the siting of the windfarm in this location and its associated negative impact on climate change. Please note the advice provided below.

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

1.1 Scotland has declared a Climate Emergency and has set a target of net zero emissions by 2045. The role peatlands play in storing carbon and in climate regulation is now understood to be an important role. Disturbed peatlands can no longer sequester and store carbon and will be transformed to become net producers of carbon dioxide, resulting in a net increase in Scotland's emissions.

1.2 The letter from NatureScot of 29th July 2019 advises they have undertaken a walk over survey of the site in July 2019. "This survey confirmed:

- The site supports extensive areas of Class1 carbon rich soils, deep peat and priority peatland habitat;
- That much of that habitat satisfied the minimum quality standards required of a Site of Special Scientific Interest;
- That despite efforts to reduce impacts on areas of deep peat and summit pool systems, significant damage to areas of deep peat and priority peatland habitat could not be avoided;
- That the peatland is of sufficient quality over an extensive area that on-site habitat restoration would not compensate for the loss and damage resulting from wind farm construction and operation."

1.3 As such, we believe that the proposals to construct a windfarm here, where it would be necessary to disturb and extract a high quality blanket bog, are not consistent with the statutory duty placed on public bodies under Section 44 of the Climate Change (Scotland) Act 2009 (as amended by the Emissions Reduction Act 2019) to act in the way best calculated to contribute to the delivery of the net zero and interim targets in a way that it considers is most sustainable.

1.4 The proposals would also be contrary to the commitment in SEPA's Climate Change Commitment statement to protect and enhance natural carbon sinks and keep locked up carbon where it is.

1.5 Scottish Planning Policy (2014) (paragraph 205) states that "Where peat and other carbon rich soils are present, applicants should assess the likely effects of development on carbon dioxide (CO_2) emissions. Where peatland is drained or otherwise disturbed, there is liable to be a release of CO_2 to the atmosphere. Developments should aim to minimise this release". Policy NH5 Soils of Shetland Local Development Plan 2014 also states that "Development will only be permitted where appropriate measures are taken to maintain soil resources and functions …" and in the Justification section further states "Soil formation processes involve long timescales and soils should be viewed as a finite and non-renewable resource. Soils are one of Shetland's greatest natural assets and are the heart of most terrestrial life. The Scottish Soil Framework sets out the many functions of soils, including: …

- Underpinning nationally and internationally valued rare habitats and sustaining biodiversity
- Storing carbon
- Maintaining the balance of gases in the air …

Soils fulfil important socio-economic and environmental roles; therefore it is important that Shetland's soils are managed sustainably, in order that they can retain the capacity to carry out their many vital functions."

1.6 The necessary disturbance and extraction of peat involved in the construction of the windfarm on this site, which is extensively high quality blanket bog in near pristine condition, would be contrary to Scottish Planning Policy, paragraph 205 and policy NH5: Soils of the Shetland Local Development Plan 2014.

1.7 It is estimated that 80% of the peatland in Scotland is degraded, and it is known that degraded peat is a source of carbon emissions. Development on degraded peat can prevent further carbon emissions and seek to improve peatland hydrology and vegetation such that conditions may be re-established in time, under which active carbon sequestration can take place. This proposal on such a site could have a positive outcome.

1.8 However, this site is pristine and is currently delivering the important and invaluable ecosystem service of carbon sequestration. As per the statement in paragraph 7.7.4 of the Ecology chapter of the SEI, the permanent loss of high value pristine active blanket bog cannot be mitigated by compensatory restoration. The conclusion of Major residual adverse long term effect of National importance in relation to excavation of deep peat is also significant.

1.9 The high value of the existing undisturbed site and the large volume of peat that will be excavated or disturbed means that the acceptability of the proposal based on being able to fully mitigate the impacts relies on the likelihood of success of the proposed restoration and reinstatement in genuinely achieving a net greater carbon uptake and biodiversity service than would occur in the absence of this development. As per their letter of 18 July 2019 to the Energy Consents Unit, the local experience of Shetland Amenity Trust led them to conclude that it is unlikely that the disturbed and degraded blanket bog will be returned to its former state of active M17 blanket bog; instead it is much more likely to return to some type of dwarf shrub vegetation. Therefore, we consider this to be a high risk proposition and unlikely to contribute positively towards achievement of the Climate Change Act emission reduction targets.

1.10 Therefore, in spite of the net positive area and volume of peat to be reinstated and restored by this proposal, it is unlikely that the carbon uptake potential of the reinstated and restored peat will come close to that of the site in its current undisturbed state, particularly given the very high volume of peat that will be affected.

1.11 Notwithstanding our above advice, if the determining authority are minded to grant consent for the above proposal, in addition to our request for the following matters to be covered by planning condition, as per our letter of 24 June 2019, Section 1 (Peat Management Plan and Restoration Plan), 4.1 (buffer strip), 4.2 (micro-siting), 5.(CEMP), 6 (flood risk), 7 (borrow pits) and 8 (Decommissioning and Restoration Plan), and advise we would ask that the following issues are addressed to minimise as much as possible the effects in regard to peat management and restoration.

2. Additional information to be addressed in the Peat Management Plan and Restoration Plan

2.1 This advice should be read in conjunction with the previous advice in our letter of 24 June 2019 (our reference PCS/165327). We maintain our request for peat depth survey probing and submission of interpolated depth maps to the full extent of the 100 metre micrositing allowance. It is noted that the description of the peat depth survey in the Revised Outline Peat Management Plan indicated that this has been conducted to the extent of a 50 metre micrositing allowance (Peat Survey Methodology, page 8).

2.2 It is noted and welcomed that the applicant has agreed to all conditions requested by SEPA which are summarised in 10.3.9 of Chapter 10 of the SEI. The clear presentation of the applicant's design iteration responses to SEPA comments in Table 10.1 is appreciated. The applicant's responses are clear, logical and accepted. Consideration of relocating Borrow Pit H during detailed design is also welcome; we would greatly prefer deeper peat to be avoided as much as possible, and if at all possible, to avoid the necessity of diversion of the minor watercourse.

2.3 Points for consideration, as requested by SEPA, which are listed in paragraph 10.3.11 were not mentioned thus it is unclear if these have been accepted or addressed.

2.4 Chapter 7 of the SEI, paragraph 7.5.15 states that it is likely that replacement of blanket bog with heath communities is likely within 2 – 3 metres of turbine bases and track batters. The applicant must explain how this likely change in habitat is in accordance with the estimated reinstatement and restoration figures, which imply a restoration to the pre-development quality and condition of the reinstated areas.

2.5 Table 7.1 in the SEI Chapter 7 – Ecology presents the surface area of each NVC plant community type or mosaic that is expected to experience permanent loss, temporary loss during construction, operation degradation of peat (e.g. by drainage) and due to disruption of water flows. We found this a very useful and clear means of presenting the information.

2.6 The zone of influence of drains and cable routes which have the effect of drying of peatlands due to drainage or other influences on hydrological flow paths was estimated based on information from Moor House, in Teesdale. We suggest that the applicant obtain local relevant evidence of the likely zone of influence observed within the Shetland Islands.

2.7 In the PMP, reinstatement of peat on 2 in 1 slopes is described. The applicant must provide more information on methods that will be used to re-establish vegetative cover at these slope angles. If it is anticipated that these slopes will be covered with a geotextile to prevent erosion (as described) and that otherwise is likely to largely remain bare then this should be stated. We recommend that the applicant consider the use of undercutting the vegetation layer at the edge of the cut track and rolling back the vegetation whilst excavating the track; when excavation is finished then roll the vegetation down over the 2 in 1 batter (i.e. using a variation of the method as described under hag reprofiling on page 15 of the Draft HMP).

2.8 Peat placed on track verges should gently taper in to the adjacent land form, with the peat blocks placed snugly together and the edge of the peat placed furthest from the track should be firmed in to the adjacent ground to form a seal, in order to minimise water loss through evaporation.

2.9 Generally, it is a balance between reducing slope angle to increase the likelihood of successful re-establishment of vegetation cover against minimising the extent of the infrastructure footprint.

2.10 Appropriate methods of calculating peat excavation volume have been used, as shown in the clear narrative description, with dimensions of each relevant infrastructure element summarised in Tables 3 and 4, and further assumptions clearly laid out.

2.11 It was not clear how long the peat excavated for cable trenches will be stored while the track is laid. The applicant should provide more information on this to enable evaluation of whether it is reasonable to assume that no losses will result.

2.12 Tables 5 and 6 of the PMP were very clear and informative. Borrow pits, and to a lesser extent the tracks, excavated area of the substation and crane hardstandings have the most significant volumes of peat excavation. The proposed reinstatement will use all of the expected excavated peat, with an additional capacity of approximately 33,000 m^3. 84% of the reinstated peat is to be used in borrow pit restoration to a depth of two metres. The thickness of excavated peat to be placed in borrow pit restoration should match the profile of the adjacent undisturbed soil. Two metres is the maximum permitted; if the borrow pit is located within an area of shallower peat then it is expected that the thickness of peat placed during restoration should be less than two metres in order to tie in closely with the adjacent conditions.

2.13 10% of the reinstatement volume is to be placed along the 2 in 1 slopes of the floating track verges (8%) and crane hardstandings (2%). Given the previous statement (in the Ecology chapter of the SEI) that within 2 or 3 metres of turbine bases and tracks it is likely that reinstated peat will establish a heathland community instead of blanket bog, the applicant should address what this means for the reinstatement and restoration, i.e. that heath communities are not equivalent to pristine active blanket bog.

2.14 Experience of peat excavation for development on Shetland (e.g. Total gas plant) has shown that bulking or expansion of the peat volume on excavation is common, and has resulted in underestimation of the volume of peat to be re-used. It is not clear if this has been considered in the peat excavation volume calculations. If not, the applicant should consider this and demonstrate that the contingency of identified re-use of 33,812 m3 greater than currently estimated as excavation volume is sufficient to accommodate the likely increase in volume on excavation.

2.15 We strongly advise that stacking of vegetated turves is avoided in order to best preserve the viability of the vegetation layer.

2.16 It is important to ensure that mineral soil and aggregate is strictly kept separate from peat or peaty soils in order to avoid contamination (which could result in a change in chemical or hydrological properties in the peat, reducing the likelihood of successful reinstatement on placement).

2.17 Given that the tracks will have adjacent drainage ditches, the applicant should confirm how the peat placed on track verges will be maintained in a saturated condition (PMP, page 35).

2.18 Screening bunds are not an appropriate use of excavated peat (PMP, p35), as previously stated in our response of 24 June 2019. The applicant should confirm what is meant by landscaping in this context.

2.19 The Habitat Management Plan states that compensation for 23.4 ha of permanent loss of blanket mire will be delivered through restoration of two areas (off-site) on Yell, by means of local hag-reprofiling, stabilisation of bare peat and control of grazing and peat cutting. Four potential areas on Yell have been identified: two each in East and West Yell. Given the importance of restoration to an equivalent quality and condition of that which will be lost, the HMP will need more detail plus demonstrable landowner agreement.

If you have any queries relating to this letter please contact me by email at planning.north@sepa.org.uk.

Yours sincerely

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Planning Service

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