



Broken Cross

Supplementary Environmental Information Report

Client: Broken Cross Wind Farm Limited
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Appendix 1 – Proposed Planning Conditions



1. Introduction

1.1 Background

Broken Cross Wind Farm Limited (hereafter referred to as “the Applicant”) is submitting an application to South Lanarkshire Council (SLC) under Section 42 of the Town and Country Planning (Scotland) Act 1997 as amended, to develop the Broken Cross 2019 Energy Project (the “approved development”) without compliance with conditions previously attached.

The approved development is a 10-turbine wind energy project on a former opencast mining site approximately 6.3 km to the south-west of Lanark and immediately to the east of the M74 motorway (Figure 1.1).

An application for planning permission was submitted to SLC in October 2019 under the Town and Country Planning (Scotland) Act 1997 as amended, and was supported by an Environmental Impact Assessment Report (EIA Report) as required by the Environmental Impact Assessment (Scotland) Regulations 2017.

SLC granted planning permission for the development on 22nd April 2021 (ref. P/19/1636). The planning permission has 34 conditions attached to it; all of the pre-commencement conditions have been discharged, as the approved development has progressed through the pre-construction phase and is now in construction.

Pre-construction detailed ground investigation works have identified that the approved location of Turbine 8 (T8) is not feasible due to exceptionally difficult ground conditions not allowing the safe and efficient installation and operation of a wind turbine at that location as planned. The Applicant is therefore proposing to re-site T8 to an alternative location where ground conditions are suitable for development. The revised T8 location remains within the red line boundary of the approved development site, but is more than 100 m from the approved location and therefore would not be allowable within permitted micro-siting distances. A small (approximately 3m by 3m) meter housing adjacent to T2 is also required, to allow T8 to be connected to the grid.

Additionally, in the time elapsed since planning permission was granted, progress in technology and operational methods for wind energy projects in Scotland are such that the typical operational lifespan of commercial-scale projects tends to be longer than the 25 years allowed by the Development’s planning permission. To maximise the renewable energy generation capability and benefits to be achieved from the Development, the Applicant considers that an operational lifetime of 30 years is appropriate.

Permission is therefore being sought to construct and operate the development without compliance with the following planning conditions:

- Planning Condition 3:

“That the Development will be decommissioned and will cease to generate electricity by no later than the date falling twenty-five years from the date of Final Commissioning. All wind turbines, ancillary equipment and buildings shall be dismantled and removed from the site and the land shall be restored and subject to aftercare, in accordance with the decommissioning, restoration and aftercare plan referred to in Condition 4. The total period for restoration of the Site in accordance with condition 4 shall not exceed three years from the date of Final Commissioning without prior written approval of the Planning Authority.”

- Planning Condition 15:

“Each turbine shall be erected in the position indicated. A variation of the indicated position of any turbine or other development infrastructure detailed on the approved drawing shall be notified on the following basis: (a) if the variation is less than 50 metres it shall only be permitted following the approval of the Ecological Clerk of Works (ECOW) in consultation with SEPA (b) if the variation is of between 50 metres and 100 metres it shall only be permitted following written approval of the Planning Authority in consultation with SEPA. The said provisions relating to variation shall not have the effect such that any variation will:



- bring a turbine outwith the planning application boundary.
- breach the 50m watercourse buffer zones."

The proposed amended development, taking account of the above changes to relocate T8, add a small meter housing adjacent to T2, and extend the operational phase, will hereafter be referred to as the "Proposed Development".

A schedule of proposed planning conditions, amended to reflect the above changes to the development, and to reflect the pre-commencement conditions that have already been discharged, is given as **Appendix 1** to this report.

1.2 Purpose of the SEI Report

This Supplementary Environmental Information (SEI) Report provides information on the Proposed Development, including a description of the proposed changes to the approved development, and an assessment of environmental effects arising from those changes. The assessment is proportionate and targeted, focusing on environmental effects which have the potential to be materially altered by the proposed change to T8 location, as discussed and agreed with SLC, and by the proposed longer operational lifetime.

Although this SEI Report supersedes certain elements of the 2019 EIA Report¹, it should be read in conjunction with the 2019 EIA Report. It is made clear in the sections below where any aspect of the 2019 EIA Report is superseded by this SEI Report.

A Non-Technical Summary of this SEI Report is provided separately, in accordance with the Town & Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 as amended.

2. The Proposed Development

2.1 Site Description

The site covers an area of 276 ha and forms part of a former surface coal mine (Broken Cross). The site is located just north of Junction 11 of the M74, on the east side of the motorway (**Figure 1.1**).

A description of the site prior to commencement of development is given in Section 1.2 of the 2019 EIA Report. Since planning permission was granted, ground investigations, preparatory works, and construction works for the approved development have been undertaken on-site. All turbines apart from T8 are currently being constructed.

2.2 Proposed Development Description

Figure 2.1 illustrates the Proposed Development. **Figure 2.2** shows the Proposed Development as well as showing the approved T8 location (which would not be constructed, but would be replaced by the proposed T8), for reference.

The Proposed Development consists of ten wind turbines with a maximum blade tip height of up to 149.9 m, nine turbines of which are currently being constructed and are within the micro-siting allowance of their approved locations. T8 has not been constructed.

As was the case for the approved development, a micro-siting allowance of 100 m is sought for the turbine and other development infrastructure, to allow for localised ground conditions.

¹ Broken Cross 2019 Energy Project Environmental Impact Assessment Report (ITPEnergised, October 2019).



The candidate turbine parameters are unchanged from the 2019 EIA Report and are as follows: overall height (to blade tip) maximum 149.9 m, rotor diameter up to 136 m, and hub height of approximately 82 m.

2.2.1 Revised T8 Location

The proposed final locations of the turbines are unchanged from the approved development, with the exception of T8.

It is proposed to amend the location of T8 to a position approximately 1 km south-west of the approved location, as per **Table 2.1** below and **Figure 2.1**.

Table 2.1 – Approved and Proposed Amended T8 Coordinates (British National Grid)

Approved T8 Location		Proposed Revised T8 Location	
Easting	Northing	Easting	Northing
285094	637877	284614	636927

Table 2.2 provides co-ordinates for all Proposed Development turbines, for ease of reference.

Table 2.2 – Proposed Development Turbine Coordinates (British National Grid)

Turbine No.	Easting	Northing
T1	284911	636403
T2	284316	637132
T3	283831	637462
T4	284114	638188
T5	284767	637520
T6	285162	637191
T7	285144	636784
T8	284614	636927
T9	285430	638231
T10	284250	637784

2.2.2 Additional Meter Adjacent to T2

Due to the proposed relocation of T8, an additional small meter housing is required adjacent to T2, to allow T8 to be connected into the grid. This housing will be up to 3m by 3m in plan, as shown on **Figure 2.1**.

2.2.3 Revised Operational Lifetime

It is proposed that the operational lifetime of the Development will be 30 years instead of the 25 years currently allowed in accordance with Planning Condition 3 to the extant planning permission (refer to the proposed amended planning condition in **Appendix 1**). As noted in Section 1.1 above, this proposed change reflects progress in technology and operational methods for wind energy projects in Scotland, and seeks to maximise the renewable energy generation capability and benefits to be achieved from the Development.



2.2.4 Design Iteration and Consideration of Alternatives

Chapter 2 of the 2019 EIA Report provides full details of the design evolution for the approved development.

Following detailed intrusive ground investigation works which were undertaken after planning permission was granted for the approved development, it was identified that the ground conditions at the approved T8 location were unsuitable, and alternative locations with more favourable ground conditions were sought.

Taking account of suitable inter-turbine spacing, topography, ground conditions, and operational efficiency, the Applicant identified four prospective T8 locations for further consideration. These included locations between T2 and T10; between T5 and T6; and north-west of T9, as illustrated in **Figure 2.3**.

A review of potential environmental, landscape and visual constraints and impacts was undertaken for each location. This involved review of existing data from previous surveys and studies undertaken at the site (ecology, ornithology, hydrology/geology, cultural heritage, and information on generation site conditions including proximity to off-site receptors such as residential properties), as well as consideration of design principles and potential effects on key viewpoints.

The proposed T8 location noted above in Tables 2.1 and 2.2 was selected as being most suitable. This location is within the red line boundary of the approved development, and it is on natural ground (i.e. outside the backfilled mining void). The location is on relatively flat topography, and is at the edge of a woodland area which has already been felled as per the approved development description. No significant constraints were identified in respect of ecology, hydrology, peat, cultural heritage, noise or shadow flicker.

An online meeting was held between the Applicant, ITP Energised and SLC's Planning Team Leader, on the 3rd of August 2023, to discuss the proposed relocation of T8. The background and rationale for the proposed relocation were provided, together with preliminary wireframe images of the approved development compared with the Proposed Development, from two key viewpoints. SLC's Planning Team Leader did not raise any significant concerns based on that discussion, and advised that the preferred consenting route for the proposed amendment to the development would be through submission of a Section 42 application to develop not in accordance with relevant planning conditions. It was noted that the Section 42 application should be accompanied by a report providing an assessment of potential environmental effects arising from the Proposed Development, noting any change in effects when compared to the approved development. It was agreed that the assessment should be proportionate and targeted, focusing on environmental effects which have the potential to be materially altered by the proposed change to T8, considered likely to be noise and landscape and visual effects.

The T8 location as noted in Tables 2.1 and 2.2 was thereafter confirmed as the preferred T8 location, with further assessment undertaken to confirm no increase in any adverse environmental, landscape or visual effects as set out in this SEI Report.

2.3 Carbon Considerations

Section 2.10 of the 2019 EIA Report provides analysis of the anticipated renewable energy generation from the approved development, together with an estimate of energy consumption over the lifecycle of the development.

As given in Paragraph 2.10.2 of the 2019 EIA Report, the annual indicative total power output of the development is anticipated to be around 119.9 GWh. For the 25-year lifespan of the approved development, this equates to approximately 2,999 GWh of renewable electricity generation. The Proposed Development operational lifespan is 30 years, therefore the total estimated renewable electricity generation for this longer lifespan is 3,598 GWh (600 GWh more than the approved development, due to the longer lifespan).

The total carbon saved over the 25-year operational lifespan of the approved development, taking account of estimated life-cycle carbon losses, is estimated to be 1.25 million tonnes, as given in Paragraph 2.10.14 of the 2019 EIA Report. For the increased operational lifespan of 30 years, the total carbon estimated to be saved by the Proposed Development, again taking account of estimated life-cycle carbon losses, is 1.5 million tonnes. The Proposed Development would therefore result in an additional 0.25 million tonnes of carbon saved through displacement of fossil fuel power generation.



2.4 No Other Changes

No other amendments to the proposed Development design, operation, environmental management or mitigation measures are proposed.

The Development generation capacity is not expected to change, and will not exceed 50 MW.

3. Approach to SEI

3.1 Overview

As set out in Section 1.2 above, this SEI Report provides information on the Proposed Development, including a description of the proposed changes to the approved development, and an assessment of environmental effects arising from those changes. The assessment has been carried out in consultation with SLC, and follows the requirements of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) and relevant good practice guidance.

The assessment is proportionate and targeted, focusing on environmental effects which have the potential to be materially altered by the proposed change to T8 location, as discussed and agreed with SLC, and by the proposed longer operational lifetime.

The section numbering of this SEI Report follows the same structure as the chapters of the 2019 EIA Report. A brief review of relevant planning policy is given in Section 4, and this is followed by information on potential effects of the Proposed Development for a range of technical topic areas (Sections 5 to 14). Section 15 provides a Schedule of Mitigation which summarises all the committed mitigation measures (updated as appropriate from the 2019 EIA Report), and Section 16 provides a Summary of Residual Effects. Relevant figures are included as part of the SEI Report, with references given within the written text.

Also as noted in Section 2.1, this SEI Report should be read in conjunction with the 2019 EIA Report. It is made clear in the sections below where any aspect of the 2019 EIA Report is superseded by this SEI Report.

The potential for the significance of cumulative effects to change, due to the proposed changes to the approved development, has been considered. However, this assessment has been based on the cumulative baseline at the time of the 2019 EIA, only considering the potential for the proposed changes to the development to result in a change to the assessed cumulative effects. An updated review of the cumulative baseline (i.e. updated identification of other operational, approved and proposed wind energy developments in the vicinity) has not been undertaken, because any such developments which were proposed, approved or constructed after planning permission for the Broken Cross Wind Energy project was granted will have needed to consider the approved development as part of the cumulative assessments undertaken to inform their respective applications. Re-visiting those assessments as part of a new cumulative impact assessment for the Proposed Development would therefore be unwarranted.

3.2 The SEI Project Team

Table 1.2 of the 2019 EIA Report provides details of the assessment team which undertook the various technical assessments as part of the EIA. The assessment of potential changes to environmental effects as presented in this SEI Report has focused principally on landscape and visual effects and noise, based on initial review and consultation with SLC which identified these topics as having most potential for any changes in effects to arise due to the proposed T8 relocation.

The landscape and visual assessment as reported in Section 7 of this SEI Report was undertaken by Tetra Tech (formerly WYG), providing continuity given this was the same team who undertook the Landscape and Visual Impact Assessment for the 2019 EIA.

The noise assessment as reported in Section 9 of this SEI Report was undertaken by ITP Energised, again providing continuity from the 2019 EIA.



The review and assessment of potential effects associated with other technical topics as reported in Sections 5, 6, 8, and 10 to 14, were led by ITP Energised with reference as appropriate to the specialist assessment work undertaken as part of the 2019 EIA.

3.3 Availability of the SEI

The SEI Report will be available to purchase for a cost of £215 for hard copies, or £15 for a DVD/USB, from Broken-Cross@baywa-re.co.uk. The SEI Report can also be accessed on the Applicant's website at <https://www.baywa-re.co.uk/en/wind/broken-cross-wind-farm>.

Copies of the Non-Technical Summary are available free of charge from Broken-Cross@baywa-re.co.uk.

Copies of this SEI Report will be available for viewing during opening hours at the following locations:

South Lanarkshire Council Planning and Building Standards HQ Office – Hamilton
Floor 6, Council Offices, Almada Street
Hamilton
South Lanarkshire
ML3 0AA

Coalburn Miners' Welfare One Stop Shop
42 Coalburn Road
Coalburn
ML11 0LH

3.4 Representations to the SEI

Any representations to the application should be made directly to the SLC Planning Department at:

Planning and Building Standards
Floor 6, Council Offices, Almada Street
Hamilton
South Lanarkshire
ML3 0AA

Email: planning@southlanarkshire.gov.uk

Website at which the planning application can be viewed and commented on:

https://www.southlanarkshire.gov.uk/info/200218/planning_for_householders/1633/view_planning_applications

4. Policy Review

This section provides a high-level review of relevant planning policy applicable to the Proposed Development.

The Planning (Scotland) Act 2019 (the '2019 Act') stipulates that the Development Plan for an area consists of The National Planning Framework; and any Local Development Plan.

4.1 National Planning Framework 4

National Planning Framework 4 (NPF4) received final approval from the Scottish Parliament on the 11th of January 2023 and was adopted by the Scottish Ministers on the 13th of February 2023. Therefore, the statutory Development Plan covering the Proposed Development site now consists of NPF4 and the South Lanarkshire Council Local Development Plan (LDP), which was adopted in April 2021.



Section 13 of the 2019 Act, brought into force on 12th of February 2023, amends Section 24 of the Town and Country Planning (Scotland) Act 1997 (the 1997 Act) to provide that: *“In the event of any incompatibility between a provision of the National Planning Framework and a provision of a local development plan, whichever of them is the later in date is to prevail.”*

Further to this, Supplementary Guidance associated with the Local Development Plans which were brought into force prior to 12th of February 2023 will continue to be enforced and form part of the Development Plan.

NPF4 seeks to enable more renewable energy generation in Scotland, outside National Parks and National Scenic Areas, to support the transition away from reliance on fossil fuels.

Aspects of NPF4 which are specifically relevant to the proposed Development are briefly discussed here.

- Policy 1 – Tackling the Climate and Nature Crisis. This policy directs decision makers that *“when considering all development proposals significant weight will be given to the global climate and nature crises”*. The intent is *“to encourage, promote and facilitate development that minimises emissions and adapts to the current and future impacts of climate change”*. As an onshore wind energy project, the Proposed Development supports these aims.
- Policy 3 – Biodiversity. Policy 3 part a states: *“Development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats and building and strengthening nature networks and the connections between them. Proposals should also integrate nature-based solutions, where possible”*. As noted in Section 5 below, there are no anticipated significant effects on habitats or biodiversity. Also as noted in Section 5, the Applicant is committed to delivering a Habitat Management Plan (HMP), already being prepared and agreed as required by planning conditions attached to the extant planning permission. The HMP will be reviewed to identify potential amendments or additional management measures to deliver biodiversity enhancement, beyond protection of ecological receptors.
- Policy 5 – Soils. Policy 5 States that *“a) Development proposals will only be supported if they are designed and constructed: i. In accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; and ii. In a manner that protects soil from damage including from compaction and erosion, and that minimises soil sealing.”* The location of the proposed T8 is within the area of an approved wind turbine array (approved by the extant planning permission), and the footprint of the turbine, hardstanding and short stretch of access track are not materially different to that previously approved. As outlined in Section 14 below, little or no peat has been recorded at the proposed T8 location. No significant effects on soils are predicted.
- Policy 11 – Energy. The intent of Policy 11 is as follows: *“To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. This includes energy generation, storage, new and replacement transmission and distribution infrastructure and emerging low-carbon and zero emissions technologies including hydrogen and carbon capture utilisation and storage (CCUS)”*. Policy 11 further states that *“Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported”* including *“repowering, extending, expanding and extending the life of existing wind farms”*. The desired outcome of this is evidently the expansion of renewable energy through mean of encouragement and facilitation. As the Proposed Development is an onshore wind generation project, it clearly supports the goals of this policy.

Part e of Policy 11 also states that *“in addition, project design and mitigation will demonstrate how the following impacts are addressed...”* The various environmental criteria referred to in this policy which are relevant to the Proposed Development, are addressed in Sections 5 to 14 of this SEI Report.



4.2 South Lanarkshire Council Local Development Plan

Aspects of the LDP which are specifically relevant to the proposed Development are briefly discussed here.

- Policy 14 – Natural and Historic Environment. No significant effects on natural and historic environment receptors are predicted, as set out in Sections 5, 6 and 8 below. No change to the significance of effects on landscape character are predicted for the Proposed Development, in comparison with the approved development, as reported in Section 7 below.
- Policy 15 – Travel and Transport. No significant transport effects are predicted, as set out in Section 13 below.
- Policy 16 – Water Environment and Flooding. No significant effects on the water environment are predicted, as set out in Section 14 below.
- Policy 18 – Renewable Energy. The assessments provided in this SEI Report, read in conjunction with the 2019 EIA Report for the approved development, provide information relevant to the requirements set out in the Assessment Checklist for Renewable Energy Proposals as given in the LDP. No change to the significance of effects is predicted for the Proposed Development, in comparison with the approved development.

5. Ecology and Biodiversity

Chapter 5 of the 2019 EIA Report provides a detailed assessment of effects of the approved development on non-avian ecological receptors.

The approved development has now largely been constructed. However, apart from the construction footprint area, the baseline conditions of the site and study area have not materially changed from what is described in Section 5.5 of the 2019 EIA Report based on desk study, consultation and field surveys. .

As reported in the 2019 EIA Report, no sites designated for nature conservation were identified as being at risk from the development, and designated sites were scoped out of further consideration. The proposed change to T8 location and extension of operational lifetime do not change this conclusion and designated sites are not considered further.

As reported in the 2019 EIA Report, the primary habitats recorded at the site (listed in order of size), are:

- Recently restored land, covered in a poor semi-improved grassland;
- Marshy grassland;
- Bare ground;
- Plantation forestry;
- Semi-improved grassland;
- Wet dwarf shrub heath;
- Dry dwarf shrub heath; and
- Wet modified bog.

Previous desk study work identified the potential for a range of wildlife to be found at the site. Badger and bat presence was recorded in 2018, with amphibian species (principally common toad) and otter recorded during earlier (2012) survey effort.

Taking account of standard mitigation measures as set out in Section 5.8 of the 2019 EIA Report, predicted effects were considered to be barely perceptible and therefore not significant.

A review of the proposed T8 location identifies that it is within a thin strip of wet modified bog habitat. The hardstanding and short section of access track to reach the proposed T8 location would extend across an



area of dry dwarf shrub heath. The small meter housing adjacent to T2 is within coniferous woodland plantation habitat (the woodland having already been felled for construction of the approved development).

In respect of the wet modified bog habitat, as noted in Paragraph 5.5.36 of the 2019 EIA Report, blanket mire is a conservation priority habitat; however, the bog within the site is both modified and of very limited extent. It is also liable to be damaged during felling of the adjacent plantation crop. A less than local value was ascribed to this habitat, and it was not taken forward as an Important Ecological Feature (IEF) as part of the assessment.

The coniferous woodland plantation habitat recorded on-site was also ascribed a value of less than local (refer to Paragraph 5.6.3 of the 2019 EIA Report) and it was not taken forward as an IEF as part of the assessment.

Paragraph 5.6.9 of the 2019 EIA Report notes that the on-site areas of dwarf shrub heath would be ascribed a high value, were it not for their limited extent and location. The dry dwarf shrub heath habitat was assessed as of local value, and it was taken forward as an IEF as part of the assessment. Given the very small area of this habitat that would be lost due to construction of the T8 hardstanding and track (approximately 0.13 ha permanent loss plus approximately 0.11 ha temporary loss during construction, representing approximately 3% of the dry dwarf shrub heath recorded at the site), the magnitude of impact on this habitat is low, and the significance of effect is assessed as minor and not significant.

Protected species surveys identified no sensitivities associated with the proposed T8 location, and no changes to the assessed effects as reported in the 2019 EIA Report are predicted.

The mitigation measures as set out in the 2019 EIA Report, including implementation of a Habitat Management Plan (HMP) are unchanged and the Applicant remains committed to their delivery.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted, which remains consistent with the 2019 EIA Report for the approved development.

No change to the cumulative risk assessment results from the proposed changes to the development.

The HMP will be reviewed to identify potential amendments or additional management measures to deliver biodiversity enhancement, beyond protection of ecological receptors.

6. Ornithology

Chapter 6 of the 2019 EIA Report provides a detailed assessment of effects of the approved development on ornithological receptors.

The approved development has now largely been constructed. However, the baseline conditions of the majority of the site and study area, as described in Section 6.4 of the 2019 EIA Report based on desk study, consultation and field surveys, are not expected to have materially changed.

As reported in the 2019 EIA Report, no sites designated for ornithological interests were identified as being at risk from the development, and designated sites were scoped out of further consideration. The proposed change to T8 location and extension of operational lifetime do not change this conclusion and designated sites are not considered further.

Also as reported in the 2019 EIA Report, one species of high conservation value raptor and three species of common raptor were registered during the breeding season, although none were assessed as breeding within the survey area. A further three species of scarce raptor were recorded during the non-breeding season. Four species of wildfowl were recorded during the non-breeding season, while none were recorded during the breeding season. Five species of gull were recorded during both the breeding and non-breeding seasons. Eight species of waders were recorded, five were recorded breeding.

Although the levels of recorded flight activity were considered to be low, for the purposes of completeness, collision risk modelling was undertaken for peregrine, golden plover and curlew.



Taking account of standard mitigation measures as set out in Section 6.7 of the 2019 EIA Report, predicted effects were considered to be low to barely perceptible and therefore not significant.

The proposed T8 location is within the area of the approved turbine array, and does not extend the spatial area within which turbines would be located. Neither the number of turbines nor the candidate turbine model dimensions will change. The potential effects associated with disturbance and displacement of bird species would be unchanged from the barely perceptible to low significance (not significant in EIA terms) as reported in the 2019 EIA Report.

No changes to the calculation of estimated annual collision risk would result from the proposed T8 relocation, again given that the proposed location is within the previously approved turbine array area. However, the proposed extended operational lifetime, from 25 to 30 years, would result in potential for a slight increase in the estimated total collision risk over the operational life of the Proposed Development. Table 6.1 provides a summary of estimated total collision risk over the lifetime of the development, for a 25-year lifespan as presented in the 2019 EIA Report, and for a 30-year lifespan as now proposed.

Table 6.1 – Collision Risk Modelling Summary

Species	Predicted Annual Collisions (from 2019 EIA Report)	Predicted Project Lifetime Collisions for 25-year Lifespan (from 2019 EIA Report)	Predicted Project Lifetime Collisions for 30-year Lifespan (Proposed Development)	Level of Effect
Peregrine	0.0007	0.018	0.021	Barely perceptible (not significant) and unchanged from 2019 EIA Report
Curlew	0.00079	0.020	0.024	Barely perceptible (not significant) and unchanged from 2019 EIA Report
Golden plover	0.00020	0.005	0.006	Barely perceptible (not significant) and unchanged from 2019 EIA Report

The mitigation measures as set out in the 2019 EIA Report, including implementation of a HMP, are unchanged and the Applicant remains committed to their delivery.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted, which remains consistent with the 2019 EIA Report for the approved development.

No change to the cumulative risk assessment results from the proposed changes to the development.

The HMP will be reviewed to identify potential amendments or additional management measures to deliver biodiversity enhancement, beyond protection of ornithological receptors.



7. Landscape and Visual Impacts

7.1 Introduction

This section sets out an addendum to the Landscape Visual Impact Assessment (LVIA), which was included as Chapter 7 of the 2019 EIA Report.

As described in Section 1.1 of this SEI Report, the Proposed Development includes the proposed relocation of turbine T8 from its approved position at the north-eastern part of the site, to an alternative location in the western part of the site due to technical delivery reasons. With reference to the proposed alternative turbine location, this section of the SEI sets out an overview of the predicted effects on landscape character and on views and provides a comparative overview of the approved development and the Proposed Development.

To support this SEI, the following figures have been prepared:

- Figure 7.1** – 40km Study Area – T8 Relocation Layout ZTV – Hub Height
- Figure 7.2** – 15km Context – T8 Relocation Layout ZTV – Hub Height
- Figure 7.3** – 40km Study Area – T8 Relocation Layout ZTV – Blade Tip Height
- Figure 7.4** – 15km Context – T8 Relocation Layout ZTV – Blade Tip Height
- Figure 7.5** – 40km Study Area – T8 Relocation Layout vs Consented Layout ZTV – Hub Height
- Figure 7.6** – 40km Study Area – T8 Relocation Layout vs Consented Layout ZTV – Blade Tip Height
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- Figure 7.25** – Viewpoint 23: B7078 (NE of Coalburn) – Wireline Drawing – Consented Layout (left)
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- Figure 7.28** – Viewpoint 23: B7078 (NE of Coalburn) – Wireline Drawing – Relocated T8 (right)



7.2 Description of the Proposed Development

The proposals are for the relocation of turbine T8 from the north-eastern part of the site to an alternative location in the west of the site. The proposed relocation will also include a reconfiguration of the access track and crane pad location to facilitate the construction of the turbine in the alternative location. The approved and proposed positions of T8 are shown on **Figure 2.2**.

Within the approved development, T8 is located at the north-eastern side of the array, between T5 and T9, which lies at the north-eastern edge of the site. The current proposals aim to relocate the turbine to the west of the site, between T2 and T1, thereby creating a slightly offset row of turbines (T1, T2, T3 and T8) along the west of the array.

7.3 Landscape Effects

7.3.1 Landscape Character Overview

Within the national landscape character assessment published by NatureScot in 2019, both the site and T8 are identified as lying within the Plateau Farmland – Glasgow & Clyde Valley Landscape Character Type (LCT). The LCT is noted as having the following key characteristics:

- *“Extensive, open, flat or gently undulating landform;*
- *Dominance of pastoral farming, but with some mosses surviving;*
- *Limited and declining tree cover;*
- *Visually prominent settlements and activities such as mineral working; and*
- *Rural character of the Plateau Farmland has reduced as tree cover has declined and the visual influence of settlements, transport infrastructure and mineral working has increased”.*

At a local level, the approved T8 location also lies within the Plateau Moorland Opencast Mining (6D) LCT, which is a sub-unit of the wider Plateau Moorland LCT identified within the South Lanarkshire Landscape Character Assessment (2010). The key characteristics of this LCT are noted as:

- *“Distinctive upland character created by the combination of elevation, exposure, smooth, plateau landform, moorland vegetation and, with the exception of windfarms, a comparative lack of modern development;*
- *these areas share a sense of apparent openness and exposure which contrasts with the farmed and settled lowlands but do not feel remote;*
- *increasingly these areas are subject to significant landscape change resulting from extensive large scale windfarm development and associated reduction in area of commercial forestry.”*

Windfarms: Sensitivities and Forces for Change

The Landscape Character Assessment recognises that *“in recent years extensive large scale windfarm development has significantly changed the character of the Plateau Moorlands. The windfarms are often visible over a considerable distance and affect the character of neighbouring areas of Plateau Farmland”* (page 34 of The South Lanarkshire Landscape Character Assessment).

Windfarms: Planning and Management Guidelines

The Landscape Character Assessment goes on to establish a number of guidelines for this LCA. They are:

- *“Further scope for wind energy development in this landscape type is limited; further developments should be very carefully sited so as to avoid further significant expansion of the visual and landscape impacts, including cumulative impacts in areas already supporting extensive windfarm development;*
- *the spread of turbines towards or across the boundary with Plateau Farmlands should be avoided so as to avoid cumulative effects and blurring of the two landscape types;*



- *extensive visual effects or visual domination of Plateau Moorland turbines on nearby river valleys should be avoided*" (page 34 of The South Lanarkshire Landscape Character Assessment).

7.3.2 Landscape Value and Sensitivity

Within the LVIA for the approved development, the value of the Plateau Moorland Opencast Mining (6D) LCT is set out using references to the Landscape Capacity Study for Wind Energy (2016): Appendix 6: Assessment of Landscape Capacity for South Lanarkshire Landscape Character Types. Within this document, the landscape value attributed to the Plateau Moorland LCT is as follows:

Table 7.2 – Landscape Capacity Study for Wind Energy (2016) - Appendix 6: Assessment of Landscape Capacity for South Lanarkshire Landscape Character Types (LCT6 – Plateau Moorlands) – Characteristics & Level of Value

Landscape Value Criteria	Characteristics and Level of Value
Designations	Few designated areas. Low
Community value	Some access to open spaces. Medium/Low
Cultural value	Some locations of archaeological/ historic interest. Medium/Low
Perceptual	Bleak areas of low landscape interest seen as substantially developed for wind energy. Low
OVERALL RATING	Medium/Low

In addition, the LVIA for the approved development (Chapter 7 of the 2019 EIA Report) noted that for the Plateau Moorland Opencast Mining (6D) sub-type, *"the landscape at Broken Cross is heavily influenced by the recently completed opencast mining works, and the extensive excavations which have resulted because of the works. In this context, recreational interest is minimal due to the lack of public access, and there is no community or cultural value attributed to the site. As such, the overall value is Low."*

In terms of overall sensitivity, the LVIA for the approved development again references the Landscape Capacity Study for Wind Energy (2016): Appendix 6: Assessment of Landscape Capacity for South Lanarkshire Landscape Character Types, which notes (for LCT 6 – Plateau Moorlands):

Table 7.2 – Landscape Capacity Study for Wind Energy (2016) - Appendix 6: Assessment of Landscape Capacity for South Lanarkshire Landscape Character Types (LCT6 – Plateau Moorlands) – Characteristics & Sensitivity Level

Landscape Criteria	Character	Characteristics and Sensitivity Level
Scale		Large. Low
Landform		Predominantly undulating. Low
Pattern		Fairly simple field and tree belt pattern at edges. Arrays of wind turbines. No clear patterns elsewhere. Medium/ Low



Landscape Criteria	Character	Characteristics and Sensitivity Level
Development		Development predominantly windfarms. Scattered farms/ dwellings around edges. Low
Quality		Generally an uninteresting landscape significantly affected by past and present development. Medium/Low
Elements and Features		Mainly windfarms and conifer plantations on moorland. Occasional more prominent landforms and water bodies. Electricity lines. Medium/Low
Context		Background to Plateau Farmland. Viewed on horizon from some towns and villages and roads. Medium
OVERALL RATING		Medium/Low (Small areas of the LCT are considered to be Medium including Coalburn and Broken Cross)

In addition, the LVIA for the approved development (Chapter 7 of the 2019 EIA Report) notes that in Table 6.1 of the 2016 LCS, a 'Summary of Landscape Capacity, Cumulative Effects and Guidance for Future Wind Energy Development' for each of the LCT's located in South Lanarkshire is provided. For this landscape type of the sub type, the following information is provided.

With reference to the Plateau Moorland area (iv) Western Plateau Broken Cross/Coalburn, the study identifies a medium sensitivity to wind energy development but no underlying capacity for wind turbines over 120 m height. It goes on to note, in relation to Broken Cross and Coalburn areas, that, *"Any wind energy development with 3 or more 80-120m turbines would dominate them and affect surrounding Plateau Farmland and valley landscapes"* and that, *"Both areas have limited further capacity. The Broken Cross area already accommodates several turbines in or adjacent to the southwest and would become a wind turbine landscape if a significant development were consented within it. The Coalburn area is indirectly affected by the adjacent Dalquhandy development and the proximity of Coalburn village limits scope for further significant development."*

The Plateau Moorland Opencast Mining landscape sub type is specific to the recently completed Broken Cross opencast mining works, in which the site is located. The landscape of the site is therefore heavily influenced by the works and there are few existing features which complement the wider Plateau Moorland landscape. As such the landscape is considered to have low susceptibility to further change and, when considered against the Medium/Low value established within the landscape baseline section, the sensitivity to change is considered also to be **Lesser/Moderate**.

7.3.3 Magnitude of Change & Significance of Effect – Approved Development

The magnitude of change and overall significance of effect assessment for the Plateau Moorlands Opencast Mining (6D) LCT is set out in Table 7.7 of the 2019 EIA Report. This is as follows:

Table 7.3 – Approved Development LVIA – Plateau Moorlands Opencast Mining (6D) LCT Magnitude of Change, Effects & Significance

Magnitude of change: during construction	This LCA sub-type is heavily influenced by the Broken Cross opencast workings. Nevertheless, the Proposed Development will introduce additional elements to the baseline landscape, including nine turbines and all associated ancillary development. Construction effects will incrementally increase / decrease during construction / decommissioning as a result of the extent of works taking place on site. Magnitude of Change: Medium/Great
Magnitude of change: during operation	This LCA sub-type is heavily influenced by the Broken Cross opencast workings. Nevertheless, the Proposed Development will introduce additional elements to the baseline landscape, including nine turbines and all associated ancillary development. Magnitude of Change: Great
Degree & nature of effects & significance: during construction & decommissioning	Moderate adverse , given the high degree of landscape change taking place within the LCA sub-type. Temporary construction/ decommissioning effects will incrementally increase and decrease over time. Significant.
Degree & nature of effects & significance: during operation	Moderate adverse , given the high degree of landscape change taking place within the LCA sub-type. Significant

7.3.4 Magnitude of Change & Significance of Effect – Proposed Development (relocated turbine T8)

The relocation of turbine T8 within the Plateau Moorlands Opencast Mining (6D) LCT is not anticipated to result in any additional effects to those already identified within the LVIA for the approved development. Whilst turbine T8 would be relocated, with associated changes to the access track, infrastructure and crane pad layouts *et al*, the Proposed Development will comprise the same number of turbines and associated elements as the approved development, and the same number of turbines will be located within LCT 6D, albeit in a slightly different configuration. On this basis, the magnitude of change and degree, nature and significance of effect on the Plateau Moorlands Opencast Mining (6D) LCT are anticipated to remain the same as that identified within the LVIA for the approved development (as noted above).

As the Proposed Development includes the relocation of turbine T8 within the Plateau Moorlands Opencast Mining (6D) LCT, no additional effects are anticipated on the adjacent Plateau Farmland (5) LCT which extends around LCT 6D to the north, south and west. In this regard, to the immediate west of the site, LCT 5 is heavily influenced by the M74 motorway corridor, and major infrastructure elements such as high voltage power lines and pylons, so the inclusion of an additional turbine in the west of the site (within the adjacent Plateau Moorland Opencast Mining LCT) would have a negligible effect on the character of the landscape due to the presence of nearby approved turbines T1, T2 and T3 which are set out in a offset line to the east of the motorway. Turbine T8 would appear in this line between turbines T1 and T2, and at a similar distance from the motorway as the consented turbines. To the north, the removal of turbine T8 from the northern edge of the array would reduce the presence of turbines along the northern edge of the Plateau Moorland Opencast Mining (6D) LCT, and correspondingly reduce the presence of turbines influencing the adjacent Plateau Farmland (5) LCT.

7.4 Visual Effects

This section deals with the effects on visual amenity, arising from changes in the views available to people in the surrounding area. To illustrate the changes in view resulting from the relocation of T8 for the north-eastern part of the site to the western part of the site, updated Zone of Theoretical Visibility (ZTV) maps, and wireframe views from five of the viewpoints assessed within the LVIA for the approved development have been prepared.

7.4.1 Comparative ZTV analysis

To aid a comparative analysis of the approved development against the Proposed Development, ZTV mapping for the Proposed Development at both hub height and blade tip height are set out on **Figures 7.1 to 7.4**; and comparative ZTV mapping has been prepared to show areas with additional visibility resulting from the turbine relocation; and areas which no longer have visibility. These are presented as **Figures 7.5 and 7.6**.

Analysis of the comparative ZTV mapping (**Figure 7.6**) shows that in general terms, there are notably more areas where visibility has reduced than where it has increased, so overall, there is a slight beneficial effect in the extent of visibility across the 40km study area.

Notable areas where visibility towards the wind farm would reduce are:

- To the west, north-west of Lesmahagow, along the lower lying landscape around the Kype Water, as far as Strathaven;
- To the north-west of Lanark, around Nemphar and Braidwood, and to the south-west of Carluke; and,
- Through the South Medwin valley, to the east of Carnwath.

Areas where visibility would increase are generally limited to small areas of upland, including:

- Auchrobert Hill and around the Logan Water Valley;
- The hill slopes to the east of the M74 corridor, east of Douglas;
- Areas to the north of Biggar Common and around Shieldhill; and,
- Occasional areas within the Southern Upland hills to the south-east.

7.4.2 Comparative Viewpoint Analysis

The following narrative and tables set out a comparative assessment of the approved development and Proposed Development, focussing on the five viewpoints selected for assessment. With reference to the viewpoint numbering included within the LVIA for the approved development (Chapter 7 of the 2019 EIA Report), the five viewpoints selected to illustrate the proposed change in view are:

- Viewpoint 01: Bellfield, Coalburn
- Viewpoint 02: Briar Bank, Lesmahagow
- Viewpoint 03: Hawksland
- Viewpoint 04: Rigside
- Viewpoint 23: B7078 (NE of Coalburn)

These viewpoints have been selected to represent views from key receptors located within 5 km of the Proposed Development, and to represented views from multiple view angles and directions. Relevant baseline photographs and wireline drawings are set on **Figures 7.7 to 7.28**.



Table 7.4 –Comparative Visual Effects of Approved Development and Proposed Development - Viewpoint 01: Bellfield, Coalburn

Viewpoint 01: Bellfield, Coalburn	
Approved Development (extract from the 2019 EIA Report)	Proposed Development (relocated T8)
View during construction / decommissioning	View during construction / decommissioning
Whilst the change in the view during construction and decommissioning (including the movement of cranes and construction /decommissioning of the nearest turbines) would be noticeable in this relatively open view, much of the ground level construction activity associated with the more distant turbines would be obscured by intervening vegetation and landform. Crane operations associated with all 10 visible turbines would however be clearly visible.	The construction activity associated with the relocated T8 is likely to be more visible than the approved development, where the turbine appeared stacked beyond turbine T5 and in front of the more distant T9, and with any construction / decommissioning activity around its base obscured by intervening landform. The relocation of the turbine to the west of the array would result in more activity being visible, both in relation to ground level works (including formulation of foundations, crane pads and access track, and crane-based activity related to construction of the turbine. However, whilst the construction and decommissioning activity related to this turbine would be more visible, it would be seen in the direct context of construction / decommissioning activity related to nearby T2 and T5 to the left, and T1, T6 and T7 to the right. On this basis, the overall visibility of construction activity would increase slightly, but not enough to notably increase the overall perception of works on site.
View during operation	View during operation
All of the proposed wind turbines would be visible from this location, with views towards the upper tower, nacelle and blades of each available. It is noted that three of the turbines will appear stacked in the view, but the appearance of the furthest two turbines (T8 and T9) will be reduced by the presence of T5 in front. Six of the proposed turbines will be seen to be associated with the former overburden within the site, with three further turbines (T3, T4 and T10) seen located on lower lying ground. The location of the turbines on the lower ground aids in the reduction in the perceptual scale of these turbines. The introduction of wind turbines to the site will introduce additional vertical elements into the landscape north-east of Coalburn, but the turbines would be seen in the context of other existing medium scale turbines in the view, which are	During operation, the relocated T8 would appear at the centre of the array, and at a similar elevation to its approved location. Additionally, the relocated turbine would appear evenly spaced in the gap between T5 / T9 to the left, and T6 to the right, and as such, the overall array of turbines appears slightly more balanced and regularly spaced, without the gap previously located between T5 / T9 and T6. Whilst the relocated turbine would appear closer to the viewpoint than its previous position, and with all of its tower and blade rotation visible, it would appear at a similar scale and elevation to the other turbines to the left and right, resulting in only limited encroachment of development towards the viewpoint.

located at closer proximity to the viewpoint (JJ's farm and Birkhill). It is also noted that the two consented M74 Eco-Park turbines would also appear in this view if constructed. It is acknowledged that the proposed turbines would be highly perceptible features in the view, with the various elements of the majority of the turbines (blades, nacelles and towers) clearly visible. Movement associated with the blade rotation would therefore be clearly visible but again this would be seen against the movement associated with turbines already visible in the view, albeit at a smaller scale.	On this basis, the relocation of T8 would not notably alter the originally assessed view during operation.
Magnitude of Change	Magnitude of Change
<u>Construction-Decommissioning</u> During construction and decommissioning, some ground level and all crane activity within the site would be visible. The magnitude of change is assessed as medium. <u>Operational</u> The operational development will introduce prominent vertical features across the mid-ground of the view. The turbines will occupy a high proportion of the view to the east. The magnitude of change is assessed as great.	<u>Construction-Decommissioning</u> The construction and decommissioning works associated with the relocated T8, including formation of access tracks, foundations and crane pads would be more notable in the view than the approved turbine location however, the overall level of activity will only marginally increase, and any works would be seen in the context of adjacent works associated with T2, T5 and T6. On that basis, the overall magnitude of change is anticipated to remain the same as originally assessed. The magnitude of change is assessed as medium. <u>Operational</u> The operational T8 would appear at a similar scale and elevation to other turbines positioned along the west of the array, and the relocated T8 would appear within the gap between T5 / T9 and T6, thereby presenting a slightly more balanced array overall. On that basis, the magnitude of change is anticipated to remain the same as originally assessed. The magnitude of change is assessed as great.
Effect – construction & decommissioning	Effect – construction & decommissioning
Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.	Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.
Effect – operational	Effect – operational
Major adverse as there would be a great change in the view experienced by highly sensitive receptors.	Major adverse as there would be a great change in the view experienced by highly sensitive receptors.
Significance of effect	Significance of effect
The effect is assessed as Significant .	The effect is assessed as Significant .



Table 7.5 –Comparative Visual Effects of Approved Scheme and Proposed Development - Viewpoint 02: Briar Bank, Lesmahagow

Viewpoint 02: Briar Bank, Lesmahagow	
Approved Development (extract from the 2019 EIA Report)	Proposed Development (relocated T8)
View during construction / decommissioning	View during construction / decommissioning
The ground level construction and decommissioning activity will not be seen due to the presence of landform in the intervening landscape curtailing the view. Higher crane operations will be visible with activity relating to all 10 turbines visible in the landscape beyond the horizon.	During construction, the relocation of T8 from its approved position to the left of the view, to its relocated position to the right of the view will result in very limited change in the extent and proximity of visible construction activity in the view. Activity associated with the approved location would be almost fully visible, with both ground related and crane-based operations visible, but this would be located beyond and to the right of works associated with T4. The relocated turbine would appear directly beyond the closer turbines T2 and T3, and this would be limited to crane based operations only because of the lower tower and base being obscured from view by the intervening landform.
View during operation	View during operation
The proposed turbines will form highly visible features in the pastoral view to the south-east from the viewpoint location. The turbines would however be predominantly located beyond the horizon and thus the lower portions of the turbine towers and all associated ancillary development will be largely screened from view. The turbines would appear larger in scale than existing vertical elements in the view and as such they will be highly notable features. However, the turbines will appear relatively well spaced, forming a cluster of vertical elements beyond the simple form of the horizon. The proposed turbines will be seen in the same part of the view as an existing medium scale turbine (Auchren) that is visible above the horizon, but it is noted that the proposed turbines would be much larger in scale and greater in number.	During operation, the relocated T8 would appear stacked beyond T2 and T3 to the right of the view rather than its approved position beyond and to the right of the closer T4. The relocation of the turbine from the left to the right side of the view slightly rebalances the array of turbines, with a greater number of turbines now appearing to the right however, overall, there would be a negligible change in the overall view and visible cluster of turbines.
Magnitude of Change	Magnitude of Change
<u>Construction-Decommissioning</u> Crane activity during the construction and decommissioning phases will be visible above the horizon however, ground-based activity will be obscured by the presence of landform.	<u>Construction-Decommissioning</u> The overall level of construction and decommissioning activity in the view will remain largely consistent with the approved development, with any activity seen at a greater distance than the



The magnitude of change is assessed as medium. <u>Operational</u> The operational development will introduce additional, larger vertical features within the mid-ground of the view for the duration of the operational phase. The magnitude of change is assessed as great.	closer turbines located at the northern and north-western edge of the development. The magnitude of change is assessed as medium. <u>Operational</u> Once operational, the relocated T8 will be seen at a similar scale and elevation to its approved position and will appear visually stacked beyond the nearby turbines T2 and T3. On that basis, whilst the overall turbine array will be slightly rebalanced, with more turbines appearing to the right of the view, overall, there will be a negligible change in the extent and proximity of turbines in the view. The magnitude of change is assessed as great.
Effect – construction & decommissioning	Effect – construction & decommissioning
Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.	Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.
Effect – operational	Effect – operational
Major adverse as there would be a great change in the view experienced by highly sensitive receptors.	Major adverse as there would be a great change in the view experienced by highly sensitive receptors.
Significance of effect	Significance of effect
The effect is assessed as Significant .	The effect is assessed as Significant .

Table 7.6 –Comparative Visual Effects of Approved Development and Proposed Development - Viewpoint 03: Hawksland

Viewpoint 03: Hawksland	
Approved Development (extract from the 2019 EIA Report)	Proposed Development (relocated T8)
View during construction / decommissioning	View during construction / decommissioning
Whilst ground level construction and decommissioning activity will be visible in the view, ground level activity across the southern part of the site, and relating to turbines T1, T5, T6, T7 and T9 will largely be located beyond the horizon and would not be discernible in the view. The cranes would be clearly visible as the turbines are constructed, but they would appear as incidental elements in the view in comparison to the turbines as they appear in the landscape.	Visible construction activity associated with the relocated T8 is likely to reduce due to its removal from the north-eastern part of the site to the more distant west of the site. The base and lower tower of the relocated turbine would be obscured, so any ground-based construction activity would be similarly obscured. Higher level crane-based activity would still be visible from this location, but it would appear in the same context as activity related to T1 and T5 to the left, and turbine T2 and T10 to the right.



	Overall, there would be a reduction in visible construction activity both in terms of extent and proximity.
View during operation	View during operation
Once operational, all 10 of the proposed wind turbines will be visible from the viewpoint location, with views towards the tower, nacelle and blades of each available. The turbines will occupy a large proportion of the view to the south of Hawksland and it is acknowledged that there will be some overlapping of turbine blades and visual stacking of turbines T3 and T4, to the right of the view. The development would introduce large scale turbines to the near view, but it is noted that numerous other turbines are already visible in the same angle of view (albeit at a greater distance), including the turbines of Hagshaw Hill and Hagshaw Hill Extension, which occupy the landform that forms the backdrop to the view to the south-south-west. Wind energy development is therefore an existing characteristic of the view. The central five turbines of the proposed wind farm would be seen to be associated with the restored landscape of the former opencast mine (turbines T1, T5, T6, T7 and T8), with the remaining five turbines visually associated with lower lying ground. The visual perception of vertical scale will be reduced as a result of these turbines being located on lower lying ground. Overall, the development would be a prominent additional feature in the view (and across a wide angle) to the south of the settlement.	During operation, the relocated T8 would appear more distant in the view, with the upper tower, nacelle and blade rotation being visible above the intervening landform between T2 and T5. Additionally, the removal of T8 from the closer, north-eastern part of the site would reduce the scale and dominance of turbines to the left of the view, presenting a more balanced, evenly spread main cluster, with T8 appearing within the gap between T1 and T5 to the left, and T2 and T10 to the right. However, it is also noted that the relocation of T8 from the left to the right side of the view will result in a slight increase in separation distance between the outlying T9 and turbines T6 and T7.
Magnitude of Change	Magnitude of Change
<u>Construction-Decommissioning</u> During construction and decommissioning, higher crane activity will be visible across the site and for the full duration of the works however, some of the ground level activity will be screened by the intervening landform and vegetation. The magnitude of change is assessed as medium. <u>Operational</u> Once operational, the development will be a highly notable additional element across a wide angle of view to the south. This will result in prominent vertical structures introduced in the landscape, although these will be seen against the distant backdrop of existing wind energy developments at Hagshaw Hill.	<u>Construction-Decommissioning</u> Whilst there will be a reduction in visible construction and decommissioning activity in the nearby view, the overall extent of activity will not reduce sufficiently to change the magnitude of change assessment set out for the approved development. The magnitude of change is assessed as medium. <u>Operational</u> Once operational, the relocation of T8 would reduce the extent and proximity of operational turbines to the left of the view, and with the relocation of the turbine in the gap between T1 and T5; and T2 and T10, a more balanced main turbine cluster is presented to this viewpoint location.



The magnitude of change is assessed as great .	However, overall due to the extent and proximity of turbines visible in the view, the magnitude of change is anticipated to remain consistent with that assessed for the approved development. The magnitude of change is assessed as great .
Effect – construction & decommissioning	Effect – construction & decommissioning
Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.	Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.
Effect – operational	Effect – operational
Major adverse as there would be a great change in the view experienced by highly sensitive receptors.	Major adverse as there would be a great change in the view experienced by highly sensitive receptors.
Significance of effect	Significance of effect
The effect is assessed as Significant .	The effect is assessed as Significant .

Table 7.7 –Comparative Visual Effects of Approved Development and Proposed Development - Viewpoint 04: Rigside

Viewpoint 04: Rigside	
Approved Development (extract from the 2019 EIA Report)	Proposed Development (relocated T8)
View during construction / decommissioning	View during construction / decommissioning
Ground level construction and decommissioning works within the site will largely be located beyond the near horizon and thus will not be visible. The crane activity within the site will be seen at relatively close proximity, but the cranes appear as incidental features in the landscape once the turbines begin to appear in the view.	As a result of the relocation of T8 from the right to the left side of the view and turbine cluster, there would be a very slight reduction in visible construction and decommissioning activity. This would result from a reduction in activity on the skyline around the consented location, where T8 appeared alone between T9 to the right, and T4, T5 and T6 to the left. Activity related to the relocated T8 would be seen at a similar distance to the approved location, but it would be seen in the direct context of activity relating to the closer T7, and T2 which lies immediately to the right. Ground based activity is also likely to be more obscured as less of the turbine structure would be visible above the intervening landform.
View during operation	View during operation
The turbine towers, nacelles and blades of all ten turbines will be visible above the rounded profile of the restored overburden mound, although the nacelles of turbines T3, T4 and T10 will appear just	During operation, T8 would appear to the immediate left of T2 and would be seen at a similar scale and distance, with the lower towers obscured from view by the intervening landform. Nearer



above the skyline, with the lower blade rotations and towers obscured from view. The turbines will be clearly visible above the restored overburden mound. The turbines will generally appear as a relatively regularly spaced group overall, particularly the nearest turbines in the view, with some clustering occurring in the centre of the turbine group. Turbine T9 appears slightly outlying to the right of the group, but as it is set at a slightly lower elevation, it appears less vertically prominent. Due to the close proximity of the development to the viewpoint, the turbines will be clearly visible, and the movement associated with the turbine blade rotation will also be clearly discernible. However, commercial scale wind energy is a feature of the wider landscape, with Hagshaw Hill and Extension, and Galawhistle visible albeit to the far left of the view. Medium and small-scale turbines are also present in the midground of the view, including turbines at Birkhill, JJ's Farm and Nether Fauldhouse. Nevertheless, the proposed turbines will appear the most prominent beyond the broad upland valley landscape that forms the immediate view. The development will also be seen in the context of a number of vertical elements within the foreground view, including street lighting columns, electricity pylons and telegraph poles.	turbines T1 and T7 will appear at closer proximity to the left and right. As a result of the relocation of T8 from its approved position to the left of the array, there will be a notable increase in the separation distance between T9, at the right side of the cluster, and the central group of turbines (T4, T5, T6 and T10). As such, T9 appears more notable as an outlying turbine to the right of the main cluster. Whilst this is noted, the overall extent and proximity of turbines across the skyline is largely consistent with that assessed for the approved development, and whilst there is more of an imbalance in the spread of turbines, there is no increase in lateral spread across the view, or an increase in encroachment towards the viewpoint.
Magnitude of Change	Magnitude of Change
<u>Construction-Decommissioning</u> Ground level construction and decommissioning works within the site will be largely obscured by the intervening landform. The crane activity within the site will be seen. The magnitude of change is assessed as medium. <u>Operational</u> The proposed turbines will be clearly visible within the site and they will form prominent vertical structures in the landscape. However, the turbines will be seen in the context of the existing wind energy developments set to the left of the view, and alongside other medium and small-scale turbines in the midground landscape. The magnitude of change is assessed as great.	<u>Construction-Decommissioning</u> As noted above, there is anticipated to be a slight decrease in visible construction and decommissioning activity across the view, however the overall extent and perception of activity is likely to remain largely unchanged. On that basis, the magnitude of change assessed for the approved development remains unchanged. The magnitude of change is assessed as medium. <u>Operational</u> The Proposed Development will appear largely consistent with the approved development in terms of its overall spread and proximity to the viewpoint, but it is noted that the relocation of T8 from the right to the left side of the view will increase the separation distance between T9 and the main turbine cluster. The magnitude of change is assessed as great.



Effect – construction & decommissioning	Effect – construction & decommissioning
Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.	Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.
Effect – operational	Effect – operational
Major adverse as there would be a great change in the view experienced by highly sensitive receptors.	Major adverse as there would be a great change in the view experienced by highly sensitive receptors.
Significance of effect	Significance of effect
The effect is assessed as Significant .	The effect is assessed as Significant .

Table 7.8 –Comparative Visual Effects of Approved Development and Proposed Development - Viewpoint 23: B7078 (NE of Coalburn)

Viewpoint 23: B7078 (NE of Coalburn)	
Approved Development (extract from the 2019 EIA Report)	Proposed Development (relocated T8)
View during construction / decommissioning	View during construction / decommissioning
Ground level construction and decommissioning activity within the site would not be visible as the site is located beyond the near horizon. Crane activity associated with the construction of the turbines will be seen above the near horizon and will form a temporary notable feature in the view. However, the cranes are likely to appear similar in scale as the pylons that cross the view.	During construction and decommissioning, there is likely to be an increase in visible activity resulting from the relocation of T8 from the north-eastern side of the site to the west. For the approved position, works would be largely obscured by the intervening landform, with only upper crane activity visible at nacelle height. In contrast, the relocated turbine would be visible at closer proximity, with the upper tower nacelle and blade rotation visible. Ground level activity will be fully obscured, but crane-based activity will be more visible and at closer proximity. Whilst this is noted, the activity will be seen in the context of activity taking place to the left and right, where works associated with the construction / decommissioning of T2, T5, T6 and T7 will be visible.
View during operation	View during operation
The proposed turbines will be visible to varying degrees from the viewpoint. Turbines T1 and T2 will appear most prominently due to their location across the western part of the site, and these will be seen in an elevated position at close proximity beyond the ridgeline that forms the near horizon. T3, T4 and T10 will be located beyond a copse of deciduous trees located in the immediate landscape and as such these three turbines would be filtered from view (although to a lesser extent during months of leaf loss). T3 and T4 would also	Once operational, T8 will be more visible than its approved position, where only the upper blade rotation and nacelle were anticipated to be visible above the skyline. The relocated turbine will appear further to the right of the array, between T6 and T7. Whilst the relocated turbine will appear closer to the viewpoint than its approved location, to the left and right of the view, T1 and T2 will appear larger and at closer proximity.



be seen against the large electricity pylon visible in the same view direction. T5, T6 and T7 will also appear prominently, but further back from the westernmost turbines noted above, with more of their turbine towers obscured from view by the intervening landform. Turbine T8 will be almost fully obscured, with only the upper blade tip visible above the skyline. Turbine T9 will be fully obscured. Whilst a number of the proposed turbines will appear prominently, at close proximity and in an elevated position, they will be seen in the context of the line of large electricity pylons that cross the view at this location. The vertical scale of the proposed turbines will be comparable with the existing scale of the pylons and trees in the view. It is acknowledged that the turbines will form notable additional elements in the view from the B7078 when travelling between Nether Fauldhouse and Lesmahagow. However, the landscape is characterised by several vertical features, and wind turbines are an existing feature of the wider view to the south and west.	Therefore, whilst the relocated turbine position results in T8 appearing more prominently in the view, it appears at a similar scale and proximity to other turbines proposed along the west of the site, and the overall balance of the Proposed Development remains intact.
Magnitude of Change	Magnitude of Change
<u>Construction-Decommissioning</u> The cranes associated with construction and decommissioning the development will be visible in the near to middle distance view, but they will appear similar in scale to the existing pylons that pass through the baseline landscape. Ground level activity will be screened by the ridgeline in the near view. The magnitude of change is assessed as medium. <u>Operational</u> Up to 9 of the turbines will be visible to varying degrees above the ridgeline that forms the near view. Although these will appear prominently in the view, the turbines would appear similar in scale to other existing vertical features in the near landscape (electricity pylons). A number of other wind energy developments are also visible at different view angles (to the south and west). The magnitude of change is assessed as great.	<u>Construction-Decommissioning</u> Whilst the relocated T8 will appear more prominently in the view, with crane-based construction and decommissioning activity more visible above the intervening landform, overall, this will be seen in the context of the other turbines located along the west of the site, and as a continuation of works associated with those turbines. On that basis, the overall degree of change in the view, whilst slightly increased, will be consistent with that assessed for the approved development. The magnitude of change is assessed as medium. <u>Operational</u> The relocation of T8 to the west of the site will result in it appearing more prominently in the view, but overall, it will be seen in the context of turbines which still appear closer to the viewpoint, and amongst other turbines at a similar scale and proximity. On that basis, the overall degree of change in the view will be consistent with that assessed for the approved development. The magnitude of change is assessed as great.



Effect – construction & decommissioning	Effect – construction & decommissioning
Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.	Moderate adverse as there would be a medium change in the view experienced by highly sensitive receptors.
Effect – operational	Effect – operational
Major adverse as there would be a great change in the view experienced by highly sensitive receptors.	Major adverse as there would be a great change in the view experienced by highly sensitive receptors.
Significance of effect	Significance of effect
The effect is assessed as Significant .	The effect is assessed as Significant .

7.5 Conclusion

This SEI concludes that effects resulting from the proposed relocation of T8 from the north-eastern part of the site to the west of the site are likely to be limited in both landscape and visual terms, and no change to the degree and nature of effects assessed within the approved development LVIA (Chapter 7 of the 2019 EIA Report) is anticipated.

In terms of landscape effects, the proposed turbine relocation would occur within the Plateau Moorlands Opencast Mining (6D) LCT, where T8 would move from its northern edge to a position in the west of the LCT sub-unit. Accordingly, the overall extent of development within the LCT would remain consistent with the approved development, albeit at a slightly different configuration. In addition, as the proposed relocation would occur within LCT 6D, no direct effects are anticipated on the adjacent Plateau Farmlands (5) LCT which extends around LCT 6D to the north, south and west. Indirect effects on LCT 5 were found to be negligible due to the presence of other proposed turbines located near the transition between landscape types, and the reduced sensitivity to the immediate west of the site resulting from the presence of the M74 motorway corridor, and major infrastructure elements including high voltage power lines and pylons. In addition, it was noted that the removal of T8 from the northern edge of the LCT sub-unit would slightly reduce the influence of wind energy development on LCT 5 to the north, and the landscape around Hawksland.

In terms of visual effects, analysis of the comparative ZTV mapping shows that there would be a decrease in overall visibility resulting from the relocation of T8, resulting in a slight beneficial visual effect compared to the approved development. Where additional areas of visibility are shown, these generally occur across limited areas of rural farmland and upland landscape. Regarding the comparative assessment of five key viewpoints located within 5km of the site, whilst there would be a limited change in view as a result of the proposals, there would be no change to the magnitude of change; nature and degree of effect; and the overall significance of any of the effects anticipated.

In summary, the assessment, as reported in this SEI, finds that the proposed relocation of T8 would not lead to any notable change in anticipated landscape and visual effects, nor any change to the degree and significance attributed to them.

The proposed change in operational lifespan of the Proposed Development from 25 years to 30 years has no effect on the assessment of landscape and visual impacts.



8. Historic Environment

Chapter 8 of the 2019 EIA Report provides a detailed assessment of effects of the approved development on the historic environment.

The approved development has now largely been constructed. However, the baseline conditions of the majority of the site and study area, as described in Section 8.5 of the 2019 EIA Report based on desk study, consultation and a site walkover survey, have not changed.

As reported in the 2019 EIA Report, the approved development was anticipated to have a direct impact on a small proportion of an undesignated on-site archaeological asset (a post-medieval field system related to a nearby enclosure), resulting in a marginal impact magnitude, the level of effect from which would be negligible and not significant. The proposed relocation of T8 and inclusion of a small meter housing adjacent to T2 do not change this assessment, as the area of the site where this asset is located is not subject to any design changes. No direct impacts on any other known features within the site were predicted. This has not changed as a result of the proposed T8 relocation or new meter housing, as there are no identified archaeological features on the vicinity of the proposed T8 location, its associated hardstanding and short stretch of track, or the proposed meter housing adjacent to T2.

The effect on the settings of all historic environment assets assessed as part of the 2019 EIA was found to be minor (not significant), except Auchensaugh Hill Cairn, for which the setting effect was assessed as being minor-moderate (not significant). The proposed relocation of T8 within the approved turbine array area is not considered to result in any change to the assessed setting effects as reported in the 2019 EIA Report.

The mitigation measures as set out in the 2019 EIA Report, including implementation of a programme of archaeological works, are unchanged and the Applicant remains committed to their delivery.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted for the Proposed Development, which remains consistent with the 2019 EIA Report for the approved development.

No change to the cumulative risk assessment results from the proposed changes to the development.

9. Noise and Vibration

9.1 Scope, Study Area and Noise Sensitive Receptors

Noise modelling has been undertaken to consider the ability of the Development to meet appropriate noise limits with T8 in the new proposed location at the closest noise sensitive receptors (NSRs).

The study area and NSRs considered are the same as those considered in the 2019 EIA Report (as detailed in Table 9.5 and Figure 9.1 of the 2019 EIA Report).

An assessment of cumulative noise effects from the Proposed Development together with other relevant wind turbines in the vicinity (those which were either operational, approved, or at a more advanced stage of the planning process than the Broken Cross development at the time of the 2019 EIA Report) has also been undertaken. As noted in Section 3.1 above, an updated review of the cumulative baseline (i.e. updated identification of other operational, approved and proposed wind energy developments in the vicinity) has not been undertaken, because any such developments which were proposed, approved or constructed after planning permission for the approved development was granted will have needed to consider the approved development as part of the cumulative assessments undertaken to inform their respective applications.



9.2 Evaluation Criteria – Noise Limits

This assessment has considered appropriate noise limits as proposed in the 2019 EAI Report; these are reproduced in Table 9.1.

Table 9.1 – Noise Limits from 2019 EIA Report

NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Noise limit proposed in 2019 EIA Report, dBL _{A90,10min}								
Daytime period (07:00 – 23:00)									
NSR1	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR2	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR3	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR4	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR5	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR6	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR7	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR8	40.0	40.0	40.0	40.0	40.1	42.0	43.7	45.2	46.1
NSR9	40.0	40.0	40.0	40.0	40.1	42.0	43.7	45.2	46.1
NSR10	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR11	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR12	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR13	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR14	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR15	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR16	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR17	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR18	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR19	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR20	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
NSR21	51.2	50.8	51.3	52.4	54.0	55.7	57.5	59.0	60.1
Night-time period (23:00 – 07:00)									
NSR1	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR2	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR3	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR4	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR5	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR6	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1



NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Noise limit proposed in 2019 EIA Report, dBL _{A90,10min}								
NSR7	40.0	40.0	40.0	40.0	40.0	40.0	40.4	41.9	43.1
NSR8	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.7
NSR9	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.7
NSR10	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR11	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR12	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR13	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR14	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR15	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR16	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR17	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR18	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR19	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR20	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3
NSR21	48.3	48.1	48.3	48.9	49.8	50.8	52.0	53.2	54.3

The proposed noise limits provided in 9.1 apply cumulatively, and meet the requirements of the approved noise limits provided in Condition 06 of the extant planning permission (Planning Reference P/19/1636).

9.3 Method

The assessment of the updated layout (i.e. the Proposed Development) has comprised:

- Movement of T8 to the new location within the noise model;
- Prediction of operational noise levels from the Proposed Development across the range of operational wind speeds; and
- Evaluation of the updated predicted noise levels against the approved noise limits, for operation both in isolation and cumulatively with other turbines (operational/approved at the time of the 2019 EIA Report).

All model settings and details of the candidate turbine (Vestas V136 4.0 MW with serrated trailing blade edge 82 m hub height) used in the updated model remained unchanged and as reported in Paragraphs 9.4.26 to 9.4.33 of the 2019 EIA Report.

This assessment considers that demonstrating predicted compliance with noise limits provided in the 2019 EIA Report will entail confirmation that noise effects associated with the Proposed Development remain not significant.



9.4 Results

9.4.1 Operation in Isolation

The predicted operational noise levels for the Proposed Development, operating in isolation, are provided in Table 9.2.

Table 9.2 – Predicted Noise Levels – Operation in Isolation

NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Predicted noise level, dBL _{A90,10min}								
NSR1	25.8	30.6	34.5	35.1	35.1	35.1	35.1	35.1	35.1
NSR2	23.1	27.9	31.7	32.3	32.3	32.3	32.3	32.3	32.3
NSR3	22.0	26.8	30.6	31.2	31.2	31.2	31.2	31.2	31.2
NSR4	22.8	27.6	31.4	32.0	32.0	32.0	32.0	32.0	32.0
NSR5	23.8	28.6	32.5	33.1	33.1	33.1	33.1	33.1	33.1
NSR6	22.8	27.6	31.4	32.0	32.0	32.0	32.0	32.0	32.0
NSR7	27.2	32.0	35.8	36.4	36.4	36.4	36.4	36.4	36.4
NSR8	27.9	32.7	36.5	37.1	37.1	37.1	37.1	37.1	37.1
NSR9	25.9	30.7	34.5	35.1	35.1	35.1	35.1	35.1	35.1
NSR10	24.3	29.1	33.0	33.6	33.6	33.6	33.6	33.6	33.6
NSR11	24.1	28.9	32.7	33.3	33.3	33.3	33.3	33.3	33.3
NSR12	23.7	28.5	32.3	32.9	32.9	32.9	32.9	32.9	32.9
NSR13	23.4	28.2	32.0	32.6	32.6	32.6	32.6	32.6	32.6
NSR14	22.9	27.7	31.6	32.2	32.2	32.2	32.2	32.2	32.2
NSR15	23.2	28.0	31.8	32.4	32.4	32.4	32.4	32.4	32.4
NSR16	23.4	28.2	32.1	32.7	32.7	32.7	32.7	32.7	32.7
NSR17	24.1	28.9	32.7	33.3	33.3	33.3	33.3	33.3	33.3
NSR18	23.0	27.8	31.6	32.2	32.2	32.2	32.2	32.2	32.2
NSR19	23.1	27.9	31.7	32.3	32.3	32.3	32.3	32.3	32.3
NSR20	23.8	28.6	32.4	33.0	33.0	33.0	33.0	33.0	33.0
NSR21	23.9	28.7	32.6	33.2	33.2	33.2	33.2	33.2	33.2

The predicted operational noise levels for standalone operation of the Proposed Development are evaluated against the noise limits in Table 9.3.



Table 9.3 – Evaluation Against Noise Limits – Operation in Isolation

NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Comparison; predicted level minus noise limit, dB								
Daytime period 07:00 – 23:00)									
NSR1	-25.4	-25.0	-20.7	-17.9	-18.9	-20.6	-22.4	-23.9	-25.0
NSR2	-28.1	-27.7	-23.4	-20.7	-21.7	-23.4	-25.2	-26.7	-27.8
NSR3	-18.0	-18.0	-13.2	-9.4	-8.8	-8.8	-9.2	-10.7	-11.9
NSR4	-17.2	-17.2	-12.4	-8.6	-8.0	-8.0	-8.4	-9.9	-11.1
NSR5	-16.2	-16.2	-11.4	-7.5	-6.9	-6.9	-7.3	-8.8	-10.0
NSR6	-17.2	-17.2	-12.4	-8.6	-8.0	-8.0	-8.4	-9.9	-11.1
NSR7	-12.8	-12.8	-8.0	-4.2	-3.6	-3.6	-4.0	-5.5	-6.7
NSR8	-12.1	-12.1	-7.3	-3.5	-3.0	-4.9	-6.6	-8.1	-9.0
NSR9	-14.1	-14.1	-9.3	-5.5	-5.0	-6.9	-8.6	-10.1	-11.0
NSR10	-26.9	-26.5	-22.2	-19.4	-20.4	-22.1	-23.9	-25.4	-26.5
NSR11	-27.1	-26.7	-22.4	-19.7	-20.7	-22.4	-24.2	-25.7	-26.8
NSR12	-27.5	-27.1	-22.8	-20.1	-21.1	-22.8	-24.6	-26.1	-27.2
NSR13	-27.8	-27.4	-23.1	-20.4	-21.4	-23.1	-24.9	-26.4	-27.5
NSR14	-28.3	-27.9	-23.6	-20.8	-21.8	-23.5	-25.3	-26.8	-27.9
NSR15	-28.0	-27.6	-23.3	-20.6	-21.6	-23.3	-25.1	-26.6	-27.7
NSR16	-27.8	-27.4	-23.1	-20.3	-21.3	-23.0	-24.8	-26.3	-27.4
NSR17	-27.1	-26.7	-22.4	-19.7	-20.7	-22.4	-24.2	-25.7	-26.8
NSR18	-28.2	-27.8	-23.5	-20.8	-21.8	-23.5	-25.3	-26.8	-27.9
NSR19	-28.1	-27.7	-23.4	-20.7	-21.7	-23.4	-25.2	-26.7	-27.8
NSR20	-27.4	-27.0	-22.7	-20.0	-21.0	-22.7	-24.5	-26.0	-27.1
NSR21	-27.3	-26.9	-22.6	-19.8	-20.8	-22.5	-24.3	-25.8	-26.9
Night-time period									
NSR1	-22.5	-17.5	-13.8	-13.8	-14.7	-15.7	-16.9	-18.1	-19.2
NSR2	-25.2	-20.2	-16.6	-16.6	-17.5	-18.5	-19.7	-20.9	-22.0
NSR3	-18.0	-13.2	-9.4	-8.8	-8.8	-8.8	-9.2	-10.7	-11.9
NSR4	-17.2	-12.4	-8.6	-8.0	-8.0	-8.0	-8.4	-9.9	-11.1
NSR5	-16.2	-11.4	-7.5	-6.9	-6.9	-6.9	-7.3	-8.8	-10.0
NSR6	-17.2	-12.4	-8.6	-8.0	-8.0	-8.0	-8.4	-9.9	-11.1
NSR7	-12.8	-8.0	-4.2	-3.6	-3.6	-3.6	-4.0	-5.5	-6.7
NSR8	-15.1	-10.3	-6.5	-5.9	-5.9	-5.9	-5.9	-5.9	-6.6
NSR9	-17.1	-12.3	-8.5	-7.9	-7.9	-7.9	-7.9	-7.9	-8.6



NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Comparison; predicted level minus noise limit, dB								
NSR10	-24.0	-19.0	-15.3	-15.3	-16.2	-17.2	-18.4	-19.6	-20.7
NSR11	-24.2	-19.2	-15.6	-15.6	-16.5	-17.5	-18.7	-19.9	-21.0
NSR12	-24.6	-19.6	-16.0	-16.0	-16.9	-17.9	-19.1	-20.3	-21.4
NSR13	-24.9	-19.9	-16.3	-16.3	-17.2	-18.2	-19.4	-20.6	-21.7
NSR14	-25.4	-20.4	-16.7	-16.7	-17.6	-18.6	-19.8	-21.0	-22.1
NSR15	-25.1	-20.1	-16.5	-16.5	-17.4	-18.4	-19.6	-20.8	-21.9
NSR16	-24.9	-19.9	-16.2	-16.2	-17.1	-18.1	-19.3	-20.5	-21.6
NSR17	-24.2	-19.2	-15.6	-15.6	-16.5	-17.5	-18.7	-19.9	-21.0
NSR18	-25.3	-20.3	-16.7	-16.7	-17.6	-18.6	-19.8	-21.0	-22.1
NSR19	-25.2	-20.2	-16.6	-16.6	-17.5	-18.5	-19.7	-20.9	-22.0
NSR20	-24.5	-19.5	-15.9	-15.9	-16.8	-17.8	-19.0	-20.2	-21.3
NSR21	-24.4	-19.4	-15.7	-15.7	-16.6	-17.6	-18.8	-20.0	-21.1

The predicted noise levels for the Proposed Development operating in isolation meet the derived noise limits by a substantial margin at all NSRs and across the full range of operational wind speeds.

9.4.2 Cumulative Operation

The predicted operational noise levels for the Proposed Development, operating cumulatively with other turbines which were either operational, approved, or at a more advanced stage of the planning process than the development at the time of the 2019 EIA Report (refer to the 2019 EIA Report for details of turbines considered), are provided in Table 9.4.

Table 9.4 – Predicted Noise Levels – Cumulative Operation

NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Predicted noise level, dBL _{A90,10min}								
NSR1	43.4	43.4	43.6	44.0	44.1	44.1	44.2	44.4	44.4
NSR2	38.8	38.8	39.1	39.7	39.9	40.0	40.2	40.7	40.9
NSR3	35.3	35.3	35.9	36.9	37.3	37.7	38.2	39.6	40.0
NSR4	34.4	34.4	35.2	36.5	37.0	37.4	38.0	39.4	39.8
NSR5	34.1	34.1	35.2	36.7	37.2	37.5	38.0	39.2	39.6
NSR6	34.0	34.0	34.9	36.2	36.7	37.1	37.8	39.1	39.6
NSR7	33.7	33.7	38.8	38.2	38.7	38.9	39.1	39.7	39.9
NSR8	36.0	36.0	37.4	39.2	39.7	39.8	39.8	39.9	40.0
NSR9	36.7	36.7	37.6	38.9	39.3	39.4	39.5	39.6	39.6
NSR10	38.6	38.6	39.3	40.3	40.7	40.9	40.9	41.0	41.0



NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Predicted noise level, dBL _{A90,10min}								
NSR11	38.2	38.2	39.0	40.0	40.4	40.6	40.6	40.7	40.7
NSR12	37.8	37.8	38.6	39.6	40.0	40.3	40.3	40.4	40.4
NSR13	37.4	37.4	38.2	39.2	39.7	39.9	39.9	40.0	40.1
NSR14	37.0	37.0	38.1	39.3	39.9	40.2	40.2	40.3	40.3
NSR15	36.8	36.8	37.8	39.1	39.7	40.1	40.1	40.2	40.2
NSR16	37.5	37.5	39.1	40.8	41.5	42.0	42.0	42.1	42.1
NSR17	38.5	38.5	40.6	42.6	43.4	44.0	44.1	44.1	44.1
NSR18	37.6	37.6	39.8	41.8	42.7	43.2	43.2	43.3	43.3
NSR19	38.1	38.1	40.3	42.3	43.2	43.7	43.7	43.8	43.8
NSR20	36.9	36.9	37.4	38.4	38.7	38.9	39.0	39.4	39.5
NSR21	36.8	36.8	37.6	38.5	38.8	39.0	39.1	39.3	39.5

The predicted operational cumulative noise levels are evaluated against the noise limits in Table 9.5.

Table 9.5 – Evaluation Against Noise Limits – Cumulative Operation

NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Comparison; predicted level minus noise limit, dB								
Daytime period 07:00 – 23:00)									
NSR1	-7.8	-7.4	-7.7	-8.4	-9.9	-11.6	-13.3	-14.6	-15.7
NSR2	-12.4	-12.0	-12.2	-12.7	-14.1	-15.7	-17.3	-18.3	-19.2
NSR3	-4.7	-4.7	-4.1	-3.1	-2.7	-2.3	-2.2	-2.3	-3.1
NSR4	-5.6	-5.6	-4.8	-3.5	-3.0	-2.6	-2.4	-2.5	-3.3
NSR5	-5.9	-5.9	-4.8	-3.3	-2.8	-2.5	-2.4	-2.7	-3.5
NSR6	-6.0	-6.0	-5.1	-3.8	-3.3	-2.9	-2.6	-2.8	-3.5
NSR7	-6.3	-6.3	-1.2	-1.8	-1.3	-1.1	-1.3	-2.2	-3.2
NSR8	-4.0	-4.0	-2.6	-0.8	-0.4	-2.2	-3.9	-5.3	-6.1
NSR9	-3.3	-3.3	-2.4	-1.1	-0.8	-2.6	-4.2	-5.6	-6.5
NSR10	-12.6	-12.2	-12.0	-12.1	-13.3	-14.8	-16.6	-18.0	-19.1
NSR11	-13.0	-12.6	-12.3	-12.4	-13.6	-15.1	-16.9	-18.3	-19.4
NSR12	-13.4	-13.0	-12.7	-12.8	-14.0	-15.4	-17.2	-18.6	-19.7
NSR13	-13.8	-13.4	-13.1	-13.2	-14.3	-15.8	-17.6	-19.0	-20.0
NSR14	-14.2	-13.8	-13.2	-13.1	-14.1	-15.5	-17.3	-18.7	-19.8
NSR15	-14.4	-14.0	-13.5	-13.3	-14.3	-15.6	-17.4	-18.8	-19.9



NSR	Wind Speed, ms ⁻¹								
	4	5	6	7	8	9	10	11	12
	Comparison; predicted level minus noise limit, dB								
NSR16	-13.7	-13.3	-12.2	-11.6	-12.5	-13.7	-15.5	-16.9	-18.0
NSR17	-12.7	-12.3	-10.7	-9.8	-10.6	-11.7	-13.4	-14.9	-16.0
NSR18	-13.6	-13.2	-11.5	-10.6	-11.3	-12.5	-14.3	-15.7	-16.8
NSR19	-13.1	-12.7	-11.0	-10.1	-10.8	-12.0	-13.8	-15.2	-16.3
NSR20	-14.3	-13.9	-13.9	-14.0	-15.3	-16.8	-18.5	-19.6	-20.6
NSR21	-14.4	-14.0	-13.7	-13.9	-15.2	-16.7	-18.4	-19.7	-20.6
Night-time period									
NSR1	-4.9	-4.7	-4.7	-4.9	-5.7	-6.7	-7.8	-8.8	-9.9
NSR2	-9.5	-9.3	-9.2	-9.2	-9.9	-10.8	-11.8	-12.5	-13.4
NSR3	-4.7	-4.7	-4.1	-3.1	-2.7	-2.3	-2.2	-2.3	-3.1
NSR4	-5.6	-5.6	-4.8	-3.5	-3.0	-2.6	-2.4	-2.5	-3.3
NSR5	-5.9	-5.9	-4.8	-3.3	-2.8	-2.5	-2.4	-2.7	-3.5
NSR6	-6.0	-6.0	-5.1	-3.8	-3.3	-2.9	-2.6	-2.8	-3.5
NSR7	-6.3	-6.3	-1.2	-1.8	-1.3	-1.1	-1.3	-2.2	-3.2
NSR8	-7.0	-7.0	-5.6	-3.8	-3.3	-3.2	-3.2	-3.1	-3.7
NSR9	-6.3	-6.3	-5.4	-4.1	-3.7	-3.6	-3.5	-3.4	-4.1
NSR10	-9.7	-9.5	-9.0	-8.6	-9.1	-9.9	-11.1	-12.2	-13.3
NSR11	-10.1	-9.9	-9.3	-8.9	-9.4	-10.2	-11.4	-12.5	-13.6
NSR12	-10.5	-10.3	-9.7	-9.3	-9.8	-10.5	-11.7	-12.8	-13.9
NSR13	-10.9	-10.7	-10.1	-9.7	-10.1	-10.9	-12.1	-13.2	-14.2
NSR14	-11.3	-11.1	-10.2	-9.6	-9.9	-10.6	-11.8	-12.9	-14.0
NSR15	-11.5	-11.3	-10.5	-9.8	-10.1	-10.7	-11.9	-13.0	-14.1
NSR16	-10.8	-10.6	-9.2	-8.1	-8.3	-8.8	-10.0	-11.1	-12.2
NSR17	-9.8	-9.6	-7.7	-6.3	-6.4	-6.8	-7.9	-9.1	-10.2
NSR18	-10.7	-10.5	-8.5	-7.1	-7.1	-7.6	-8.8	-9.9	-11.0
NSR19	-10.2	-10.0	-8.0	-6.6	-6.6	-7.1	-8.3	-9.4	-10.5
NSR20	-11.4	-11.2	-10.9	-10.5	-11.1	-11.9	-13.0	-13.8	-14.8
NSR21	-11.5	-11.3	-10.7	-10.4	-11.0	-11.8	-12.9	-13.9	-14.8

Predicted noise levels for cumulative operation meet the noise limits at all NSRs across the full range of operational wind speeds.

Actual cumulative noise levels at any given NSR are expected to be lower than the predicted levels, given that these exclude the effect of directivity and assume down-wind propagation from all noise sources towards all NSRs.



9.4.3 Findings

The predicted operational noise levels for the Proposed Development operating in isolation and operating cumulatively with other wind turbines (as per the cumulative situation at the time of the 2019 EIA Report) meet the noise limits derived and reported in the 2019 EIA Report. Those derived limits were reflected in the planning conditions attached to the planning permission for the approved development. This assessment confirms that no changes to the noise-related planning conditions are required (as reflected in the schedule of proposed planning conditions in **Appendix 1**).

Noise effects associated with the Proposed Development therefore remain not significant, and no mitigation is proposed.

10. Shadow Flicker

Chapter 10 of the 2019 EIA Report provides a detailed assessment of shadow flicker effects of the approved development.

As reported in the 2019 EIA Report, calculations showed that the occurrence of shadow flicker at all relevant receptors was anticipated to be well within the accepted limits for shadow flicker, of either 30 minutes per day or less than 30 hours per year.

Given that the proposed relocated site of T8 is within the area of the approved turbine array, there is no change to the study area, and no change to the anticipated extent or severity of shadow flicker at any relevant receptors.

Mitigation as set out in the 2019 EIA Report, namely the implementation of a Shadow Flicker Protocol, is unchanged and the Applicant remains committed to its delivery.

Taking account of the committed mitigation, no significant adverse residual effects are predicted, and no significant cumulative effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

11. Socio-economics, Recreation and Tourism

Chapter 11 of the 2019 EIA Report provides a detailed assessment of socio-economic, recreation and tourism effects of the approved development.

As reported in the 2019 EIA Report, the assessment concluded that the Proposed Development would result in no significant residual effects and no significant cumulative effects on socio-economic, tourism and recreational receptors.

The proposed relocation of T8 and the proposed extension of the operational lifespan from 25 to 30 years do not materially affect the assessment of socio-economic, tourism and recreational receptors. The beneficial socio-economic effects from generation of employment, indirect salary spend by project workers in the local area, and community benefit payments, are anticipated to increase slightly due to the longer operational lifespan, but the significance of effect (minor beneficial) is unchanged.

Mitigation measures as set out in the 2019 EIA Report are unchanged and the Applicant remains committed to their delivery.

Taking account of the committed mitigation, predicted residual effects range from minor adverse to minor beneficial (not significant) and are unchanged from the 2019 EIA. No significant cumulative effects are predicted.



12. Aviation and Telecoms

Chapter 12 of the 2019 EIA Report provides a detailed assessment of effects on aviation and telecommunications receptors.

As reported in the 2019 EIA Report, the turbines are visible to Lowther Hill and Cumbernauld radars, and there is therefore a requirement to mitigate the impacts of the development. A radar mitigation scheme has been agreed, involving a dual coverage mitigation provided by the Glasgow and Kincardine radars. Formal mitigation contracts were agreed in April 2016. The mitigation requirement is not expected to change as a result of the proposed relocation of T8, however this will be reviewed with the radar operators and revisions made if required. The mitigation solution for the Proposed Development will be implemented to the satisfaction of NERL and NATS prior to erection of turbines. Taking account of the committed mitigation, no significant adverse residual aviation effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

The proposed relocation of T8 does not change the assessment of effects on telecommunications links, which concluded (as reported in the 2019 EIA Report) no significant adverse effects.

No significant cumulative effects are predicted.

13. Transport and Access

Chapter 13 of the 2019 EIA Report provides a detailed assessment of transport and access effects from the approved development.

The proposed relocation of T8 within the turbine array results in no change to the assessment of transport and access effects. The abnormal load delivery route will be as previously proposed, and the anticipated construction traffic volumes and duration of works will be unchanged.

Mitigation measures as set out in the 2019 EIA Report are unchanged and the Applicant remains committed to their delivery.

Taking account of the committed mitigation, no significant adverse residual effects are predicted, and no significant cumulative effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

14. Geology, Hydrology and Hydrogeology

Chapter 14 of the 2019 EIA Report provides a detailed assessment of effects of the approved development on geology, hydrology and hydrogeology receptors.

The approved development has now largely been constructed. However, the baseline conditions of the majority of the site and study area, as described in Section 14.5 of the 2019 EIA Report based on desk study, consultation and field surveys, have not materially changed.

As reported in the 2019 EIA Report, no significant residual effects were predicted, resulting from the construction, operation or decommissioning of the approved development.

The proposed relocation of T8 and inclusion of a small meter housing adjacent to T2 do not change the previous assessment. No geological features of note are present at the proposed T8 location or the proposed meter housing location. There are no surface watercourses in the vicinity of the proposed T8 location or the proposed meter housing location, and no watercourses need to be crossed by the proposed short stretch of access track required to reach T8. The recorded peat depths from probes at and around the proposed T8 location and the proposed meter housing location are either nil or less than 10 cm. Peat slide risk at these locations is assessed as negligible.



The mitigation measures as set out in the 2019 EIA Report, including implementation of a Construction Environmental Management Plan (CEMP) and appropriate Drainage Strategy are unchanged and the Applicant remains committed to their delivery.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

No significant cumulative effects are predicted.

15. Schedule of Mitigation

Table 15.1 presents a Schedule of Environmental Commitments for the Proposed Development, listed according to the relevant environmental topic area. This is largely reproduced from the 2019 EIA Report, as there are no changes to the committed mitigation, with the exception of reviewing the HMP to identify potential amendments or additional management measures to deliver biodiversity enhancement, beyond protection of ecological receptors. A column has been added to confirm the status of each commitment i.e. whether there is any change from the 2019 EIA Report, and whether the commitment has already been fulfilled as part of discharging pre-commencement planning conditions attached to the planning permission for the approved development.

Table 15.1 – Schedule of Environmental Commitments

Environmental Subject Area	Environmental Commitment	Timing	Status
3. Proposed Development			
Construction	Normal construction working hours will be Monday to Friday 07:00 to 19:00, and Saturday 07:00 to 13:00. No works except emergency work and dust suppression will be carried out on Sundays or national bank holidays.	Construction	No change from 2019 EIA Report.
	Construction will be undertaken with due regard and in accordance with relevant good practice, including Good Practice During Windfarm Construction (Version 4) (Scottish Natural Heritage (SNH) (now NatureScot) 2019), SEPA Pollution Prevention Guidelines and Guidance for Pollution Prevention documents (SEPA, Various) and CIRIA C532 Control of Water Pollution from Construction Sites (CIRIA, 2001).	Construction	No change from 2019 EIA Report.
	Prior to construction activities a Construction Environmental Management Plan (CEMP) will be agreed with SLC, SEPA and NatureScot, and thereafter implemented. This will include a pollution prevention strategy to ensure appropriate measures are in place to protect watercourses and the surrounding environment.	Construction	No change from 2019 EIA Report. CEMP submitted to SLC and agreed, suspensive elements of planning condition 13 discharged.
	Micro-siting variation of turbine positions as shown in the SEI Report figures will be up to 100 m, to allow for localised ground conditions that are likely to have unusually high variability due to the nature of the previous surface mining and restoration activities undertaken.	Pre-construction	No change from 2019 EIA Report. Only relates to T8 as all other turbines have been constructed.
Forestry	Prior to commencement of the development, a detailed Forestry Strategy will be agreed with SLC and Scottish Forestry in relation to the proposed felling of plantation woodland in the south-west of the site. This will detail a finalised restoration strategy for the felled area, and forestry management strategy, providing for sufficient compensatory planting elsewhere if required.	Pre-construction	No change from 2019 EIA Report. Already fulfilled prior to felling now completed.
Operation	Turbine operation will be managed by control and monitoring systems to control the rotational speed of each turbine to ensure safe operation.	Operation	No change from 2019 EIA Report.
	Regular turbine maintenance and servicing will be performed, as well as ad hoc maintenance in the event of a breakdown.	Operation	No change from 2019 EIA Report.



Environmental Subject Area	Environmental Commitment	Timing	Status
	Turbines are fitted with a lightning protection system.	Operation	No change from 2019 EIA Report.
Decommissioning	Prior to decommissioning, a Decommissioning Environmental Management Plan (DEMP) will be produced to reflect the current legislation and policy, and will be agreed with the relevant statutory authorities.	Decommissioning	No change from 2019 EIA Report. DEMP submitted to SLC and agreed, suspensive elements of planning condition 4 discharged.
	During decommissioning, vehicles will access the site by the same routes used for delivery and construction.	Decommissioning	No change from 2019 EIA Report.
	All turbine components, the substations and associated equipment will be removed from the site for disposal and/or recycling as appropriate and in accordance with regulations in place at that time.	Decommissioning	No change from 2019 EIA Report.
	Exposed parts of the foundations will be ground down to below sub-soil level. However, the remaining volume of the foundations at depths greater than 1 m will remain in situ. The turbine base areas, temporary compounds and crane pads will be returned to their original appearances unless further consents are granted. Topsoil will be replaced and the area reseeded using seeds appropriate for the environment.	Decommissioning	No change from 2019 EIA Report.
	Subject to the decision of the land owners and in consultation with the local community, access tracks will be retained on the site following the decommissioning of the development.	Decommissioning	No change from 2019 EIA Report.
5. Ecology and Nature Conservation			
Generic Mitigation	Adherence to relevant environmental protection policies and guidance; development and implementation of a CEMP to include appointment of an Ecological Clerk of Works (ECoW); pre-construction ecological surveys.	Pre-construction, construction and decommissioning	No change from 2019 EIA Report. CEMP submitted to SLC and agreed, suspensive elements of planning condition 13 discharged. Terms of ECoW appointment agreed with SLC and ECoW



Environmental Subject Area	Environmental Commitment	Timing	Status
			appointed, suspensive elements of planning condition 26 discharged. Pre-construction ecological surveys undertaken, planning condition 28 discharged.
Habitats	Identification of appropriate exclusion zones around sensitive features (ponds/wetlands, retained forestry edges), if applicable, to prevent construction vehicles tracking through these areas. Careful strip and retention of turves (with particular reference to marshy grassland vegetation), for re-use in the restoration of track and turbine batters. Operative awareness education, in the form of toolbox talks, to ensure the value of the habitat is understood. Review and update of the HMP to identify potential amendments or additional management measures to deliver biodiversity enhancement, beyond protection of ecological receptors.	Construction and decommissioning	No change from 2019 EIA Report apart from review and update of HMP, which has previously been submitted to SLC and agreed, and the suspensive elements of planning condition 29 discharged.
Bats (commuting and foraging)	A suitable buffer of 100 m will be observed between turbine blade tips and woodland edges.	Pre-construction	No change from 2019 EIA Report.
Protected Species	Pre-construction surveys for badger will be undertaken and any additional mitigation or protection measures will be implemented as appropriate and required. Consultation with NatureScot, agreement of a way forward and requirement to obtain the relevant disturbance licensing will be undertaken should a sett be identified within the working area. Use of soft felling techniques, under an appropriate NatureScot disturbance licence, should an active sett be encountered within clear-felling area.	Pre-construction	No change from 2019 EIA Report. Pre-construction ecological surveys undertaken, planning condition 28 discharged.
	Avoidance of working in the vicinity of badger habitat during the hours of darkness and within two hours after sunrise and two hours before sunset (one hour between November and February).	Construction and decommissioning	No change from 2019 EIA Report.
	Construction phase task lighting to be strictly controlled to avoid illumination of edge habitats of the plantation forestry.	Construction	No change from 2019 EIA Report.

Environmental Subject Area	Environmental Commitment	Timing	Status
	Controlled site lighting regime during the operational phase, should lighting be required, to reduce lighting impacts.	Operation	No change from 2019 EIA Report.
	Micro-siting of tracks, or re-siting of man-made ponds within the central area, before they become established, to ensure no loss of future amphibian habitat.	Construction	No change from 2019 EIA Report.
6. Ornithology			
Generic measures	Adherence to relevant environmental protection policies and guidance; development and implementation of a CEMP to include appointment of an ECoW; pre-construction ornithological surveys; avoidance of unnecessary disturbance to habitats; use of prescribed working corridors; restoration of disturbed ground as quickly as possible; ecological toolbox talks to construction personnel.	Pre-construction, construction and decommissioning	No change to 2019 EIA Report. CEMP submitted to SLC and agreed, suspensive elements of planning condition 13 discharged. Terms of ECoW appointment agreed with SLC and ECoW appointed, suspensive elements of planning condition 26 discharged. Pre-construction ecological surveys undertaken, planning condition 28 discharged.
	Development and implementation of a Site Restoration Plan (SRP) as part of the CEMP to ensure the regeneration of those areas of habitat that have been temporarily lost through development.	Pre-construction and construction	No change from 2019 EIA Report. Restoration and aftercare plan submitted to SLC and agreed, suspensive elements of planning condition 4 discharged.
Breeding birds	Avoidance of vegetation clearance within the breeding season if possible; otherwise pre-clearance checks and monitoring to be undertaken by the ECoW, who will identify nesting locations and ensure implementation of appropriate mitigation measures to protect nest sites.	Construction and decommissioning	No change from 2019 EIA Report.



Environmental Subject Area	Environmental Commitment	Timing	Status
Peregrine	If construction activities are to be undertaken between April and August, a full pre-construction check for breeding peregrine will be undertaken of the Proposed Development and a 2km survey buffer by a suitably qualified ornithologist. Should any evidence of breeding activity be recorded within 750 m, a no-disturbance buffer shall be upheld until the breeding attempt is completed or the young leave the nest.	Pre-construction, construction and decommissioning	No change from 2019 EIA Report.
Waders	A HMP will be produced detailing the approach to improve degraded habitats, including the north centre of the Proposed Development in which lapwing territories are located.	Pre-construction, construction and operation	No change from 2019 EIA Report apart from review and update of HMP, which has previously been submitted to SLC and agreed, and the suspensive elements of planning condition 29 discharged.
7. Landscape and Visual			
Mitigation by Design - Turbine Visibility	The turbine colour is proposed to be a mid-grey, as in many views the turbines would be skyline elements, in order to reduce their reflectivity and given the proportion of the year when hazy or cloudy conditions would prevail.	Operation	No change from 2019 EIA Report.
Mitigation by Design - Turbine Foundation	The concrete base foundations for the turbines would be covered with stone fill and reinstated soils, which would be married back into the surrounding surfaces and restored through a combination of seeding and natural regeneration.	Construction	No change from 2019 EIA Report.
Mitigation by Design - Access Tracks	The proposed routing and construction of the access tracks within the study area aims to minimise intrusion by using existing tracks where possible, and construction of new tracks or track improvements in a similar manner to the existing. Soils excavated during construction will be retained and spread over track edges to reduce the apparent track width during the operational phase, thereby helping to reduce visual intrusion.	Construction	No change from 2019 EIA Report.
Mitigation by Design – Storage Areas	The potential visual intrusion of the contractors' compound and storage area would be minimised by locating it at the main site entrance, near the former location of the surface mine compound.	Construction	No change from 2019 EIA Report.
Mitigation by Design – Substation Compound	The architectural treatment of the site substation will aim to give it a vernacular style to minimise its visual impact. The substation compound will be surrounded by a security fence.	Operation	No change from 2019 EIA Report.

Environmental Subject Area	Environmental Commitment	Timing	Status
Landscape Restoration Strategy	The existing area of coniferous plantation woodland will be removed (clear-felled) and the area will be subject to a habitat management plan which aims to restore the landscape to peatland habitat.	Pre-construction and construction	No change from 2019 EIA Report apart from review and update of HMP, which has previously been submitted to SLC and agreed, and the suspensive elements of planning condition 29 discharged.
	At the end of the construction phase, land disturbed during the wind energy project construction will be restored. Land occupied by the contractors' compounds and storage areas will be cleared.	Post-construction	No change from 2019 EIA Report. Restoration and aftercare plan submitted to SLC and agreed, suspensive elements of planning condition 4 discharged.
	The edges of access tracks will be soiled over to marry with the surrounding levels.	Post-construction	No change from 2019 EIA Report.
	The existing network of access tracks, which will be upgraded where required to form the new access track network, will be available for recreational use by walkers, cyclists and horse riders.	Post-construction and operation	No change from 2019 EIA Report.
	The turbines and all above ground installations will be dismantled and removed from site following the 30-year consent period, and the site restored in accordance with an agreed Restoration and Aftercare Plan.	Decommissioning	No change from 2019 EIA Report apart from amending consent period from 25 years to 30 years.
8. Archaeology and Cultural Heritage			
Known heritage assets on site	All known heritage assets within 50 m of the proposed working areas, including all areas to be used by construction vehicles, will be fenced off under archaeological supervision prior to construction. This fencing will be maintained throughout the construction period to ensure the preservation of these features.	Pre-construction and construction	No change from 2019 EIA Report, but not applicable to the construction areas relevant to T8 and the additional meter housing adjacent to T2.
Potentially unrecorded cultural heritage assets	An archaeological watching brief will be undertaken on a representative proportion of ground breaking works. Depending upon the results of any watching brief works there is the potential that further works, such as excavation and post-excavation analyses, could	Construction	No change from 2019 EIA Report. Already fulfilled prior to commencement of construction of



Environmental Subject Area	Environmental Commitment	Timing	Status
	be required. Details of mitigation will be agreed in consultation with the West of Scotland Archaeological Service (WoSAS) through a Written Scheme of Investigation.		the approved development. Written Scheme of Investigation (WSI) submitted to SLC and agreed, planning condition 30 discharged.
9. Noise and Vibration			
Construction and decommissioning noise	EC Directives and UK Statutory Instruments that limit noise emissions of construction plant will be implemented, together with guidance in BS 5228-1: 2009+A1:2014 and Section 60 of the Control of Pollution Act 1974.	Construction and decommissioning	No change from 2019 EIA Report.
	Best Practicable Means (as defined in Section 72 of the Control of Pollution Act 1974) will be adopted to control noise during construction and decommissioning. This includes a ban on the use of bleeping type warning devices on plant used during construction.	Construction and decommissioning	No change from 2019 EIA Report.
	Night time deliveries will be minimal and will only be undertaken with special consideration and for abnormal loads only. Care will be taken to minimise noise when unloading vehicles.	Construction and decommissioning	No change from 2019 EIA Report.
	All requirements will be included in the CEMP and DEMP.	Pre-construction and pre-decommissioning	No change from 2019 EIA Report. CEMP and DEMP submitted to SLC and agreed, suspensive elements of planning conditions 13 and 4 discharged.
Operational noise from turbines	The noise assessment will be reviewed and updated if a turbine model other than the candidate model is to be constructed at the site, to confirm that the Proposed Development can meet relevant noise limits.	Operation	No change from 2019 EIA Report.
Fixed (Non turbine) Plant Noise	Any fixed plant will, where necessary, include a noise mitigation scheme to ensure that the derived plant noise limits will be achieved. This will include measures such as appropriate plant selection, building fabrication, plant enclosures and appropriate plant orientations.	Construction	No change from 2019 EIA Report.
10. Shadow Flicker			

Environmental Subject Area	Environmental Commitment	Timing	Status
Shadow Flicker	The Applicant proposes that prior to the erection of the first turbine a written scheme (known as the 'Wind Farm Shadow Flicker Protocol') shall be submitted to and approved in writing by SLC.	Pre-construction.	No change from 2019 EIA Report. Already fulfilled prior to erection of the first turbine as part of construction of the approved development. Shadow Flicker Protocol submitted to SLC and agreed, suspensive element of planning condition 33 discharged.
11. Socio-Economic, Tourism and Recreation			
Socio- Economic, Recreation and Tourism	Upgrading of access tracks to form a new wind farm access track network, to be agreed with SLC prior to construction.	Pre-construction and construction	No change from 2019 EIA Report. Already fulfilled prior to commencement of construction of the approved development. Access Strategy submitted to SLC and agreed, suspensive elements of planning condition 14 discharged.
	Maximising local supply chain opportunities wherever possible, through applying a positive weighting in the tender process to contractors who offer local benefits. Implementation of a Construction Traffic Management Plan (CTMP) for general construction traffic and a Traffic Management Plan (TMP) for abnormal loads in order to minimise construction-phase disruption to the local transport network, cycling and pedestrian amenity.		No change from 2019 EIA Report. Traffic Management Plan submitted to SLC and agreed, suspensive elements of planning condition 8 discharged.
12. Aviation and Telecommunications			
Aviation, Radar and Telecommunications	A radar mitigation scheme will be implemented and maintained for the lifetime of the Proposed Development as agreed with NERL and NATS.	Construction, operation and decommissioning	No change from 2019 EIA Report. Radar mitigation scheme agreed, documentation submitted to SLC,

Environmental Subject Area	Environmental Commitment	Timing	Status
			suspensive elements of planning conditions 17 and 18 discharged.
	If Vodafone identifies any conflicts with links it operates in the vicinity of the site, resolution will be sought through micro-siting of turbines.	Pre-construction	No change from 2019 EIA Report.
13. Traffic and Transport			
Abnormal Loads and Construction Traffic	During the construction period, a community liaison group will be set up to disseminate information and take feedback and the project website will be regularly updated to provide the latest information relating to traffic movements associated with vehicles accessing the site.	Construction and decommissioning	No change from 2019 EIA Report. Already fulfilled as part of construction of the approved development.
	Except for staff vehicles, construction traffic will be permitted to approach and depart the site from the west via the B7078 and Tower Road between the B7078 and the proposed site access junction only.	Construction and decommissioning	No change from 2019 EIA Report.
	Pre-construction video survey of the condition of the abnormal loads access route and the construction vehicles route; immediate repair of any hazardous damage caused by Proposed Development traffic; any other damage to road infrastructure caused directly by construction traffic will be made good, and street furniture that is removed on a temporary basis will be fully reinstated.	Pre-construction, construction and decommissioning	No change from 2019 EIA Report. Survey already completed prior to commencement of construction of the approved development.
	Implementation of a CTMP and TMP to be agreed in advance with SLC.	Pre-construction, construction and decommissioning	No change from 2019 EIA Report.
	Various minor improvements and mitigation measures will be undertaken on the abnormal load delivery route.	Construction	No change from 2019 EIA Report.
14. Geology, Hydrology and Hydrogeology			
General	Production and implementation of a CEMP, including pollution control and silt control measures, agreement of a Drainage Strategy with SEPA and SLC.	Pre-construction	No change from 2019 EIA Report.



Environmental Subject Area	Environmental Commitment	Timing	Status
			CEMP submitted to SLC and agreed, suspensive elements of planning condition 13 discharged.
	Pre-construction ground investigation works to confirm ground conditions and final foundation designs.	Pre-construction	No change from 2019 EIA Report. Already completed prior to commencement of construction of the approved development.
	Adherence to the requirements of the Controlled Activities Regulations.	Construction	No change from 2019 EIA Report.
	Forestry felling works will be undertaken in accordance with good practice set out in the Forestry Commission's UK Forestry Standard (Forestry Commission, 2017).	Pre-construction	No change from 2019 EIA Report. Already completed as part of construction of the approved development.



16. Summary of Residual Effects

As set out in Sections 5 to 14 of this SEI Report, the proposed relocation of T8 within the approved turbine array area, the addition of a small meter housing adjacent to T2, and the proposed extension of the operational lifespan of the development from 25 to 30 years, have been assessed as resulting in no change to the significance of environmental effects as reported in the 2019 EIA Report. A full summary of residual effects and cumulative effects is provided in Tables 16.1, 16.2 and 16.3 of the 2019 EIA Report.

Appendix 1 – Proposed Planning Conditions

Introduction

The following provides a copy of the planning conditions that were attached to planning permission ref. P/19/1636, amended (in tracked changes) to show the proposed planning conditions relevant to the Proposed Development. These reflect the proposed design amendments from the approved development (relocation of turbine T8 and addition of a small meter housing adjacent to T2) and the proposed operational lifetime of 30 years, as well as removing elements of planning conditions which have already been discharged.

Conditions and Reasons

01. That the development is carried out strictly in accordance with the terms of the application and the accompanying ~~EIA~~ Supplementary Environmental Information Report (SEI Report) dated ~~October 2019~~ November 2023, including all mitigation and monitoring measures stated in it, subject to any requirements set out in these conditions. Any proposed deviation from the detail provided within these documents, must be submitted to and approved in writing by the Planning Authority before the works described therein are undertaken.

Reason: To ensure compliance with all commitments made in the ~~EIA~~ SEI Report, in the interests of amenity and in order to retain effective planning control.

02. Written confirmation of the date of commissioning of development shall be supplied in writing to the Planning Authority and the date of commencement of the development shall be no later than 5 years from the date of this consent.

Reason: In order to define the terms of the consent.

03. That the Development will be decommissioned and will cease to generate electricity by no later than the date falling ~~twenty five~~ thirty years from the date of Final Commissioning. All wind turbines, ancillary equipment and buildings shall be dismantled and removed from the site and the land shall be restored and subject to aftercare, in accordance with the decommissioning, restoration and aftercare plan referred to in Condition 4. The total period for restoration of the Site in accordance with condition 4 shall not exceed three years from the date of Final Commissioning without prior written approval of the Planning Authority.

Reason: In order to define the terms of the consent.

04. ~~There shall be no Commencement of Development unless a decommissioning, restoration and aftercare strategy has been submitted to and approved in writing by the Planning Authority in consultation with SNH and SEPA. The strategy shall outline measures for the decommissioning of the Development, restoration and aftercare of the site and will include, without limitation, proposals for the removal of the Development, the treatment of ground surfaces, the management and timing of the works, and environmental management provisions.~~

No later than 3 years prior to decommissioning of the Development or the expiration of this consent (whichever is the earlier) a detailed decommissioning, restoration and aftercare plan, based upon the principles of the approved decommissioning, restoration and aftercare strategy (submitted to discharge the suspensive elements of planning condition 04 attached to planning permission P/19/1636), shall be submitted to the Planning Authority for written approval in consultation with ~~SNH~~ NatureScot and SEPA. The detailed decommissioning, restoration and aftercare plan will provide updated and detailed proposals for the removal of the Development, the treatment of ground surfaces, the management and timing of the works and environment management provisions which shall include:

- a. a site waste management plan (dealing with all aspects of waste produced during the decommissioning, restoration and aftercare phases);
- b. details of the formation of the construction compound, welfare facilities, any areas of hardstanding, turning areas, internal access tracks, car parking, material stockpiles, oil storage, lighting columns, and any construction compound boundary fencing;
- c. a dust management plan;
- d. details of measures to be taken to prevent loose or deleterious material being deposited on the local road network including wheel cleaning and lorry sheeting

facilities, and measures to clean the site entrances and the adjacent local road network;

- e. a pollution prevention and control method statement, including arrangements for the storage and management of oil and fuel on the site;
- f. soil storage and management;
- g. a surface water and groundwater management and treatment plan, including details of the separation of clean and dirty water drains, and location of settlement lagoons for silt laden water;
- h. sewage disposal and treatment;
- i. temporary site illumination;
- j. the construction of any temporary access into the site and the creation and maintenance of associated visibility splays;
- k. details of watercourse crossings;
- l. a species protection plan based on surveys for protected species (including birds) carried out no longer than 18 months prior to decommissioning.

The Development shall be decommissioned, site restored and aftercare thereafter undertaken in accordance with the approved plan, unless otherwise agreed in writing in advance with the Planning Authority in consultation with [SNH NatureScot](#) and SEPA. The approved plan shall be implemented and overseen by an Ecological Clerk of Works (ECOW).

Reason: In the interests of effective and suitable restoration.

05. ~~At least one month prior to the commencement of the development, a guarantee to cover all site restoration and aftercare liabilities imposed on the expiry of this consent will be submitted for the written approval of the planning authority. Such guarantee must:-~~

- ~~—— i. be granted in favour of the planning authority~~
- ~~—— ii. be granted by a bank or other institution which is of sound financial standing and capable of fulfilling the obligations under the guarantee;~~
- ~~—— iii. be for an amount which covers the value of all site restoration and aftercare liabilities as determined by the planning authority at the commencement of development~~
- ~~—— iv. contain provisions so that all the site restoration and aftercare liabilities as determined at the commencement of development shall be increased on each fifth anniversary of the date of this consent.~~
- ~~—— v. come into effect on or before the date of commencement of development, and expire no earlier than 24 months after the end of the aftercare period.~~

~~No work shall begin at the site until (1) written approval of the Planning Authority has been given to the terms of such guarantee and (2) thereafter the validly executed guarantee has been delivered to the planning authority.~~

~~In the event that the guarantee becomes invalid for any reason, no operations will be carried out on site until a replacement guarantee completed in accordance with the terms of this condition is lodged with the Planning Authority.~~

~~Reason: In the interests of amenity and in order to retain effective planning control. Not used.~~

06. The cumulative day time noise immissions (7am to 11pm) from the wind turbines must not exceed a noise level of 40dB LA90,10min or background LA90,10min +5dB, whichever is the greater, at the boundary of the curtilage of any noise sensitive premises at all times at wind speeds of up to 12 metres per second at 10m height as measured within the site. This is based on ([SEI Report Table 9.520- Evaluation Against Noise Limits – Cumulative Operation of compliance](#); predicted cumulative level minus derived noise limit. Daytime period 07.00 - 23.00)

The cumulative night-time noise immissions (11pm to 7am) from the wind turbines must not exceed a noise level of 43dB LA90,10min or background LA90,10min +5dB, whichever is the greater, at the boundary of the curtilage of any noise sensitive premises at all times at wind speeds of up to 12 metres per second at 10m height as measured within the site. This is based on ([SEI Report Table 9.520- Evaluation Against Noise Limits – Cumulative Operation of compliance](#); predicted cumulative level minus derived noise limit. Night-time period 23.00 - 07.00)

The cumulative noise immissions (at any time) from the wind turbines must not exceed a noise level of 45dB LA90,10min or background LA90,10min +5dB, whichever is the greater, at the boundary of the curtilage of any financially involved noise sensitive premises at all times at wind speeds of up to 12 metres per second at 10m height as measured within the site.

Where the tonal noise emitted by the development exceeds the threshold of audibility by between 2dB and 6.5dB or greater, then the acceptable noise specified in the (relevant) condition shall be reduced by the penalty level identified within section 28 of 'The Assessment and rating of Noise from Wind Farms- ETSU-R-97.

The definition of audibility for the purposes of this condition shall be as described in ETSU-R-97. The penalty shall only apply at properties where the tonal noise is measured and shall only relate to the wind speeds at which the tonal noise occurs at.

At the reasonable request of the Planning Authority and following a complaint to it relating to noise immissions arising from the operation of the wind turbine or wind farm, the wind turbine operator shall appoint an independent noise consultant, whose appointment shall require to be approved by the Planning Authority, to measure the level of noise imission from the wind farm at the property to which the complaint related. The measurement and calculation of noise levels shall be undertaken in accordance with ETSU-R-97 having regard to paragraphs 1 to 3 and 5 to 11 inclusive of the schedule on Pages 95 to 97 inclusive, and Supplementary Guidance Notes to the Planning Obligation pages 99 to 109 of ETSU-R-97.

The Planning Authority shall inform the wind turbine operator whether the noise giving rise to the complaint contains or is likely to contain a tonal component or an amplitude modulation.

Where an assessment of any noise impact is, in the opinion of the Planning Authority acting reasonably, is found to be in breach of the noise limits the wind turbine operator shall carry out mitigation measures to remediate the breach so caused. Details of any such mitigation measures required are to be submitted to the Planning Authority for prior approval. In the event of amplitude modulation being established, the wind turbine operator shall implement suitable mitigation consistent with best available technology to the satisfaction of the Planning Authority. At this time this would be in keeping with the Institute of Acoustics, IOA Noise Working Group (Wind Turbine Noise) Final Report, A Method for Rating Amplitude Modulation in Wind Turbine Noise, 9 August 2016, Version 1. Thereafter the approved mitigation measures require to be implemented within the timescales agreed.

Reason: In the interests of amenity.

07. The applicant shall ensure that all works carried out on site are carried out in accordance with the current BS5228:2009, "Noise control on construction and open sites". ~~Prior to commencement of construction activities, a detailed report identifying the projected noise impact at the nearest noise sensitive receptors shall be provided in accordance with the standard. The immissions at the Noise Sensitive Receptor shall be cumulative and shall include mobile and stationary plant and equipment. The noise from any haul roads on site shall also be included. Corrections shall be made for variables such as the operating time and the relative cumulative impact value. This shall be corrected for attenuation and shall be provided as an LAeq.1hr to be compared with either the pre-existing background level or using the ABC table within the British Standard.~~

The applicant shall further ensure that audible construction activities shall be limited to, Monday to Friday 8.00am to 7.00pm, Saturday 8.00am to 1.00pm and Sunday - No audible activity. No audible activity shall take place during local and national bank holidays - without the prior written approval of the planning authority.

Reason: In the interests of amenity.

08. ~~Prior to commencement of development works t~~The developer shall ~~submit a detailed Traffic Management Plan (TMP) for the written approval of the Council as Roads Authority, and thereafter adhere to and implement the approved Traffic Management Plan (TMP) (submitted to discharge the suspensive elements of planning condition 08 attached to planning permission P/19/1636) within the timescales set out. The TMP shall be produced in consultation with Roads & Transportation Services, Police Scotland and include a programme indicating phasing of construction of the project. Proposals shall include signage at conflicts with the Council's Core Path and Wider Network and arrangements for maintenance of all such signage. The developer shall also submit a Travel Plan as part of their TMP, to encourage less reliance on individual private car trips to the site for those personnel involved in construction activities on a routine basis and also for those attending through the course of site inspections and site meetings. No works shall commence on site until such times as the TMP has been approved in writing by the Council as Roads Authority.~~

Reason: In the interests of road safety

09. The developer shall notify the Council in writing, as soon as reasonably practical, of any changes in construction and decommissioning related activities where these will have an impact on the approved TMP. The developer will consult with the Council and Police Scotland to agree in writing any changes to the TMP, and thereafter adhere to and implement the agreed changes within the timescale set out.

Reason: In the interests of road safety.

10. The developer shall undertake all work associated with the approved planning consent and any subsequent amendments in accordance with the approved TMP. All specialist wind turbine components shall be delivered to site in accordance with the approved TMP and Abnormal Load Route Assessment. The developer shall notify the Planning Authority in writing should they propose to remove any excess material from site. Any such notification shall include details of proposed traffic routes and phasing of such operations all for the approval of the Council as Roads Authority.

Reason: In the interests of road safety.

~~11. At least 3 months prior to the delivery of abnormal loads the developer will undertake an Abnormal Load Route Assessment (ALRA) which shall include a test run and submit a report describing the outcome of the ALRA together with any recommendations for the written approval of the Council as Roads Authority and in consultation with Transport Scotland. Confirmation of agreements reached with Transport Scotland or third party landowners whose land will be encroached in order to allow Abnormal Load movements along the proposed route. The ALRA shall include details of a public relation strategy to inform the relevant communities of the programme of abnormal deliveries. The recommendations shall thereafter be implemented in accordance with a programme to be approved by the Planning Authority and shall be implemented prior to the delivery of the abnormal loads. Should the Abnormal Load route include any bridge crossings, prior to the commencement of the development clarification on the Bridge Assessments to be undertaken require to be submitted to and approved by the Council as Roads Authority. Thereafter any required works to the bridges and structures shall be implemented in accordance with the approved assessment within the timescales set out.~~

~~Reason: In the interests of road safety. Not used.~~

~~12. That prior to commencement of construction works a full Safety Audit for all infrastructure to be constructed and adopted, or altered, on the public road, undertaken in accordance with the Institute of Highways and Transportation Guidelines, shall be submitted to and approved by the Planning Authority in consultation with the Roads Authority.~~

~~Reason: In the interests of road safety. Not used.~~

~~13. That no development work shall commence until a Construction Environmental Management Plan (CEMP) including Construction Method Statement, Waste Management Plan and Pollution Prevention Plan has been submitted to and approved by the Planning Authority in consultation with SEPA and SNH. The method statement, which shall incorporate "good practice" methods from the Scottish UK wind farm industry to ensure that environmental impacts are reduced and incorporate all the mitigation measures identified in the ES supporting the application and incorporate SEPA comments in their letters dated 17 December 2018 and 26 August 2019, shall be submitted no less than 2 months prior to the proposed commencement of the development unless the Planning Authority agrees otherwise. Thereafter, all the measures described in the approved Construction Environmental Management Plan (CEMP) ((submitted to discharge the suspensive elements of planning condition 13 attached to planning permission P/19/1636) plan shall be implemented. The method statement shall include the following:~~

- ~~a) A plan of the construction operations at an appropriate scale;~~
- ~~b) A plan to an appropriate scale showing the location of any contractor's site compound and laydown areas required temporarily in connection with the construction of the development.~~
- ~~c) Method of defining track route and location (track corridors should be pegged out 500—1000m in advance of operations);~~
- ~~d) Track design approach~~
- ~~e) Maps of tracks indicating double and single tracks and position of passing places.~~

- f) The full extent of anticipated track 'footprint(s)' including extent of supporting 'geogrid' below roadstone and cabling at the edges of the track
- g) Track construction: Floating track construction over peat >1m deep and gradients of 1:10 or less. Track construction for peat <1m deep, or on gradients of >1:10, cross slopes or other ground unsuitable for floating roads.
- h) Procedures to be followed when, during track construction, it becomes apparent that the chosen route is more unstable or sensitive than was previously concluded, including ceasing work until a solution is identified, informed with reference to advice from ECoW.
- i) Details of peat/soil stripping, storage and re-use. All soils stored on site shall be in accordance with BS3882 and SNH and SEPA guidance.
- j) A management plan for minimising the emission of dust from the construction and operation of the development.
- k) Specifying the means by which material to be used for the development is brought on site unless it has certification from a suitably UKAS accredited laboratory to confirm that the material is not contaminated.
- l) Compliance with the Council's Sustainable Drainage Systems (SuDs) design criteria guidance and inclusive sign-off by the relevant parties carrying out the elements of work associated with the design criteria appendices 1 to 5.
- m) A coloured plan showing the sustainable drainage apparatus serving the application site together with the contact name and emergency telephone number of the party responsible for its future maintenance. Details of the future maintenance regime in accordance with the latest Construction Design and Management (CDM) Regulations is to be provided on this drawing.
- n) Peat Management – practices to be put in place if peat is disturbed on site. To be in accordance with SEPA and SNH guidance.
- o) A description of and measures to mitigate impact on surface water courses, hydrology, and private water supplies.
- p) Watercourse crossings should be kept to a minimum to ensure they do not adversely impact on natural flow pathways. These crossings shall be appropriately sized and overland flow routes shall be provided in the event of culvert blockage.
- q) Measures to be taken to ensure that the work does not cause mud, silt, or concrete to be washed away either during the construction stage or as a result of subsequent erosion. Where possible construction works shall avoid road construction during high periods of high rainfall.
- r) Timing and extent of any necessary re-instatement.
- s) Details of the site security gate, wheel wash facility and site entrance hard standing for the written approval of the Planning Authority. All work associated with construction of the access (with associated abnormal load over run area) and wheel wash facility, vehicle parking on site for staff, visitors and deliveries to ensure that all vehicles can manoeuvre within the site and exit in forward gear shall be implemented on site prior to commencement of any internal site works. Details for wheel wash facility to maintain the public road network clear of any mineral/soils throughout the construction period.
- t) Details of pollution prevention and mitigation measures.
- u) Ground Water and Surface Water Monitoring Plan shall be submitted to and approved by the Planning Authority in consultation with SEPA. All works require to be carried out by component qualified professional. The methodology of such monitoring including locations frequency, gathering of information of baseline levels, etc shall be submitted to the planning authority for approval prior to the commencement of works on site. Thereafter, the plan shall be implemented within the timescales set out to the satisfaction of the Planning Authority and the results of such monitoring shall be submitted to the planning authority on a 6 monthly basis, or on request.
- v) A monitoring plan shall be submitted to the planning authority setting out the steps that shall be taken to monitor the environmental effects of the development, including the effects on noise and dust, during the construction phase and the operational phase. The methodology of such monitoring including locations frequency, gathering of information on background levels, etc shall be submitted to the planning authority for approval prior to the commencement of works on site. Thereafter, the plan shall be implemented to the satisfaction of the Planning Authority and the results of such monitoring shall be submitted to the planning authority on a 6 monthly basis, or on request.

Reason: To ensure compliance with all commitments made in the Environmental Statement and in order to retain effective planning control.

14. Prior to commencement of development the developer shall submit a detailed Access Strategy (AS) for the written approval of the Planning Authority, and thereafter The developer shall adhere to and implement the approved Access Strategy (AS) (submitted to discharge the suspensive elements of planning condition 14 attached

~~to planning permission P/19/1636) within the timescales set out. The AS shall be produced in consultation with the Council's Countryside & Greenspace Services and a programme of community consultation shall be undertaken on the draft AS. Proposals shall incorporate and identify the Council's Core Path and Wider Network and provide signage where the network identifies links. No works related to the AS shall commence on site until such times as the AS has been approved in writing by the Planning Authority.~~

Reason: In the interests of amenity and recreation in order to retain effective planning control.

15. Each turbine shall be erected in the position indicated on Figure 2.1 of the SEI Report dated November 2023. A variation of the indicated position of any turbine or other development infrastructure detailed on the approved drawing shall be notified on the following basis: (a) if the variation is less than 50 metres it shall only be permitted following the approval of the Ecological Clerk of Works (ECOW) in consultation with SEPA (b) if the variation is of between 50 metres and 100 metres it shall only be permitted following written approval of the Planning Authority in consultation with SEPA. The said provisions relating to variation shall not have the effect such that any variation will:

- bring a turbine outwith the planning application boundary.
- breach the 50m watercourse buffer zones.

Reason: In the interests of amenity and in order to retain effective planning control.

16. Within 3 months of commissioning the approved wind farm the applicant shall submit to the Planning Authority an "as built plan" at an appropriate scale indicating the location of any track, turbine, crane pad and grid building within the development.

Reason: In order to retain effective planning control.

~~17. No part of any turbine shall be erected above ground until a Primary Radar Mitigation Scheme agreed with the Operator has been submitted to and approved in writing by South Lanarkshire Council in order to avoid the impact of the development on the Primary Radars of the Operator located at Lowther Hill and Cumbernauld and associated air traffic management operations.~~

~~Reason: In the interest of public safety Not used.~~

18. ~~No part of any turbine shall be erected above ground until the approved Primary Radar Mitigation Scheme has been implemented and t~~The development shall thereafter be operated fully in accordance with such the approved Primary Radar Mitigation Scheme as referred to in condition 17 (submitted to discharge the suspensive elements of planning condition 17 attached to planning permission P/19/1636).

For the purpose of this condition ~~and condition 17;~~

"Operator" means NATS (En Route) plc, incorporated under the Companies Act (4129273) whose registered office is 4000 Parkway, Whiteley, Fareham, Hants PO15 7FL or such other organisation licensed from time to time under sections 5 and 6 of the Transport Act 2000 to provide air traffic services to the relevant managed area (within the meaning of section 40 of that Act).

"Primary Radar Mitigation Scheme" or "Scheme" means a detailed scheme agreed with the Operator which sets out the measures to be taken to avoid at all times the impact of the development on the Lowther Hill and Cumbernauld primary radars and air traffic management operations of the Operator.

Reason: In the interest of public safety

19. That the watercourse crossing required for Turbine 3 be sized to convey the agreed 1:200-year design flow.

Reason: In the interests of flood risk.

~~20. That before any work starts on site, a scheme of intrusive site investigations which is adequate to properly assess the ground conditions and the potential risks posed to the development by past coal mining activity shall be submitted for the written approval of the Council, as Planning Authority in consultation with the Coal Authority. Once approved the scheme shall be implemented in full prior to any construction activities commencing on site.~~

~~Following the completion of the scheme of intrusive site works, a further report shall be submitted for the written approval of the Council, in consultation with the Coal Authority detailing the findings arising from the intrusive site investigations, including details of any remedial works necessary. Once approved, all remedial works shall be carried out on site prior to any construction commencing. Following completion of these remedial works a Verification Report, confirming the works carried out on site, shall be submitted for the written approval of the Council, as Planning Authority, in consultation with the Coal Authority.~~

~~Reason: In the interests of ground stability. Not used.~~

21. That ~~before any work starts on site, details of all compensatory planting, including location, species and timing, shall be submitted for the written approval of the Council, as Planning Authority. Once agreed the approved compensatory planting plan (submitted to discharge the suspensive elements of planning condition 21 attached to planning permission P/19/1636)~~ shall be carried out as such and maintained for the lifetime of the development, hereby approved.

Reason: In the interests of maintaining forestry within the site.

22. In the event of any turbine, or group of turbines, failing or being no longer required for electricity generation, or any other reason, for a continuous period of 12 months, unless otherwise agreed with the Planning Authority, the turbine(s) shall be replaced (in the case of failures), or dismantled and removed. In the case of removal, that part of the site accommodating the turbine, the turbine pad and access roads shall be reinstated within three months of the end of the twelve month period of non-generation in accordance with a scheme agreed with the Council as Planning Authority, all to the satisfaction of the Council.

Reason: In the interests of amenity and in order to retain effective planning control.

~~23. Prior to development commencing on site details of the confirmed turbine layout height and manufacture, including illustrations as well as details of size, shall be submitted to, and approved in writing by, the Planning Authority. Only the approved turbine type shall thereafter be installed.~~

~~Reason: In the interests of defining the terms of the consent. Not used.~~

24. ~~Prior to the erection of any turbines, the requirement to meet MoD aviation lighting shall be submitted to, and approved in writing by the Planning Authority, in consultation with MoD. The approved aviation lighting scheme (submitted to discharge the suspensive elements of planning condition 24 attached to planning permission P/19/1636), shall be thereafter~~ implemented and maintained over the life of the wind farm. For the avoidance of doubt the turbines at 149.9 metres are to be fitted with 25 candela omni-directional red lighting or infrared aviation lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration, and cardinal turbines should be fitted with 25 candela red and IR combination lighting at the highest practicable point or as agreed in writing with MoD.

The developer shall provide the MoD with the 'as built' turbine locations within 1 month of installation of turbine erected.

Reason: In the interests of public safety.

25. That outwith the lighting required through condition 24 above, the development site shall not be illuminated by lighting unless:

- a) the Planning Authority has given prior written approval
- b) lighting is required during working hours which has been approved by the Planning Authority; or
- c) an emergency requires the provision of lighting

Reason: In the interests of amenity and in order to retain effective planning control.

~~26. There shall be no Commencement of Development unless the Planning Authority has approved in writing the terms of appointment by the Company of an independent Environmental Clerk of Works (ECOW). The terms of the appointment shall include the ECOW to be appointed prior to commencement of development, remaining~~

appointed until the final commissioning of the development. The scope of work of the ECoW shall include, but not be limited to:

_____ a) monitoring compliance with the ecological mitigation works that have been approved in this consent, including the mitigation measures identified in the Environmental Impact Assessment Report dated September 2018;

_____ b) advising the developer on adequate protection of nature conservation interests on the site;

_____ c) directing the micro siting and placement of the turbines, bridges compounds and tracks;

_____ and

_____ d) monitoring compliance with the Construction Environmental Management Plan as required by condition 10.

_____ A minimum of 2 months prior to the commencement of development an Ecological Mitigation Strategy (EMS) shall be prepared and submitted for approval to and approved by the Planning Authority in consultation with SNH. The EMS shall include the mitigation measures set out in the Environmental Statement.

_____ Reason: To secure effective monitoring compliance with the environmental mitigation and management measures associated with the development. Not used.

27. Three months prior to the commencement of decommissioning an Ecological Clerk of Works (ECoW) shall be appointed by the Company and approved by the Planning Authority until the completion of aftercare or such earlier date as may be agreed in writing by the Planning Authority. The scope of work of the ECoW shall include, but not be limited to:

~~those elements identified in condition 25.~~

_____ a) monitoring compliance with the ecological mitigation works that have been approved in this consent, including the mitigation measures identified in the SEI Report dated November 2023;

_____ b) advising the developer on adequate protection of nature conservation interests on the site;

_____ c) directing the micro siting and placement of the turbines, bridges compounds and tracks;

_____ and

_____ d) monitoring compliance with the Construction Environmental Management Plan as required by condition 10.

Reason: To secure effective monitoring of and compliance with the environmental mitigation and management measures set out in the Environmental Statement and associated plans

28. ~~Not more than 8 months prior to commencement of development, a pre-construction survey for protected species shall be submitted to and approved by the Planning Authority. Thereafter any required works will be carried out in accordance with the approved mitigation measures and timescales set out. Should any protected species be recorded a licence shall be obtained from SNH prior to works commencing.~~

_____ Reason: To safeguard protected species and to ensure development conforms to Environmental Statement and maintain effective planning control. Not used.

29. ~~No later than 3 months prior to commencement on site a Habitat Management Plan (HMP) for the entire application site shall be prepared in consultation with the Council's Local Biodiversity Officer, RSPB and SNH, and submitted to the Planning Authority for approval in consultation with RSPB and SNH. The HMP shall include the following and take into account recommendations in SNH letter dated 22 November 2018 including the attached SNH letter dated 28 August 2015:~~

_____ i. ~~Wet heath restoration~~

_____ ii. ~~Native broadleaved scrub restoration~~

_____ iii. ~~Habitat monitoring~~

_____ iv. ~~Raptor monitoring programme~~

_____ v. ~~Additional habitat enhancements—off-site compensatory planting, habitat piles, watercourse protection and improvements to upstream access, blanket bog improvements, protect and enhance biodiversity~~

_____ vi. ~~monitoring at the site to collate any bird collisions~~

_____ vii. ~~confirm the significance of the losses~~

_____ viii. ~~identify any potential mitigation to minimise the potential for bird strike~~

_____ ix. ~~monitor flight paths of SPA species and other species and recommend any mitigation measures required for approval of the Habitat Management Group.~~

- ~~_____ x. Ground management programme~~
- ~~_____ xi. Vegetation clearance should not be carried out between April to July inclusive to avoid impacts on breeding birds unless otherwise agreed with the Planning Authority.~~
- ~~_____ xii. The establishment of a Habitat Management Group (HMG) to oversee the preparation of the approved Habitat Management Plan. The HMG shall include a representative of South Lanarkshire Council and RSPB and shall have powers to make reasonable changes to the HMP necessary to deliver its agreed aims.~~

~~_____ Thereafter all~~ All works shall be implemented strictly in accordance with the terms of the approved Habitat Management Plan (HMP) (submitted to discharge the suspensive elements of planning condition 29 attached to planning permission P/19/1636) and within the timescales set out in the approved HMP.

30. ~~At least 1 month prior to commencement on site the applicant shall have secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation which has been submitted by the applicant, agreed by the West of Scotland Archaeology Service, and approved by the Planning Authority. Thereafter~~ The applicant shall ensure that the approved programme of archaeological works (submitted to discharge the suspensive elements of planning condition 30 attached to planning permission P/19/1636) is fully implemented and that all recording and recovery of archaeological resources within the development site is undertaken to the satisfaction of the Planning Authority in agreement with the West of Scotland Archaeology Service.

Reason: To minimise adverse impacts on archaeology on site and to ensure development conforms to Environmental Statement.

31. ~~Prior to the erection of turbines or cranes on site the company shall provide to the Planning Authority, Ministry of Defence, Defence Geographic Centre, Civil Aviation Authority, and NATS with the following information, and has provided evidence to the Planning Authority of having done so;~~

- ~~_____ o _____ date of the expected commencement of turbine or crane erection~~
- ~~_____ o _____ height above ground level of the tallest structure forming part of the Development;~~
- ~~_____ o _____ the maximum extension height of any construction equipment; and~~
- ~~_____ o _____ grid co-ordinates of the turbines and masts positions in latitude and longitude.~~

~~_____ Reason: In the interests of aviation safety. Not used.~~

32. ~~Prior to development commencing on site, details of materials, external finishes and colours for all ancillary elements (including access tracks, transformers, switchgear/metering building, compound, and fencing) shall be submitted to and approved in writing by the Planning Authority. If required by the Planning Authority, samples of materials shall be provided and only materials approved by the Planning Authority shall be used.~~

~~_____ Reason: In the interests of visual amenity. Not used.~~

33. ~~There shall be no commencement of development until a scheme for the avoidance or mitigation of any shadow flicker experienced by residential and commercial properties situated within 10 rotor diameters of any turbine forming part of the development and which lawfully exist or for which planning permission has been granted at the date of this consent has been submitted to and approved in writing by the Planning Authority. The approved shadow flicker mitigation scheme (submitted to discharge the suspensive elements of planning condition 33 attached to planning permission P/19/1636) shall thereafter be implemented in full and maintained as such for the lifetime of the development hereby approved.~~

Reason: In the interests of amenity.

34. Only mechanical means of snow clearance shall be used to clear access tracks, and no use of chemicals or salt, unless otherwise agreed in writing by the Planning Authority.

Reason: To minimise the environmental impact of snow clearing operations by avoiding the use of chemicals or salt without explicit approval.



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