Design and Access Statement

Smulgedon Wind Farm

01/02/2021

Disclaimer

Neo Environmental Limited shall have no liability for any loss, damage, injury, claim, expense, cost or other consequence arising as a result of use or reliance upon any information contained in or omitted from this document.

Copyright © 2020

The material presented in this report is confidential. This report has been prepared for the exclusive use of Solar Farmers Ltd, (part of the Energia Group). The report shall not be distributed or made available to any other company or person without the knowledge and written consent of Solar Farmers Ltd, part of the (Energia Group) or Neo Environmental Ltd.

Neo Environmental Ltd	
Head Office - Glasgow: Wright Business Centre, 1 Lonmay Road, Glasgow. G33 4EL **T** 0141 773 6262 **E:** info@neo-environmental.co.uk	
Warrington Office: Cinnamon House, Crab Lane, Warrington, WA2 0XP. **T:** 01925 661 716 **E:** info@neo-environmental.co.uk	**Rugby Office:** Valiant Suites, Lumonics House, Valley Drive, Swift Valley, Rugby, Warwickshire, CV21 1TQ. **T:** 01788 297012 **E:** info@neo-environmental.co.uk
Ireland Office: Johnstown Business Centre, Johnstown House, Naas, Co. Kildare. **T:** 00 353 (0)45 844250 **E:** info@neo-environmental.ie	**Northern Ireland Office:** Unit 3, the Courtyard Business Park, Galgorm Castle, Ballymena, Northern Ireland, BT42 1HL. **T:** 0282 565 04 13 **E:** info@neo-environmental.co.uk

Prepared For:

Smulgedon Wind Farm Limited

Prepared By:

J Kane, Consultant Planner

	Name	Date
Edited By:	J Kane	26/10/2020
Checked By:	Helena McDonnell	01/02/2021
	Name	**Signature**
Approved By	Paul Neary	

CONTENTS

Introduction 5
Planning Policy 8
Siting 10
Design 12
Access 15
Pre-application Consultation 16
Summary/Conclusion 18

INTRODUCTION

1.1 This document constitutes a Design and Access Statement (DAS) submitted in support of the subject Planning Application to the Causeway Coast & Glens Borough Council (the "Council") as Local Planning Authority on behalf of Smulgedon Wind Farm Limited, (the "Applicant"), for a proposed amendment (the "Proposed Development") to the consented Smulgedon Wind Farm which was granted consent under planning reference B/2009/0070/F, (the "Original Consent").

1.2 The DAS should be read in conjunction with the following documentation:

- Pre-Application Community Consultation (PACC) Report
- Volume 1 – Non-Technical Summary (NTS)
- Volume 2 – Environmental Statement (ES)
    - Chapter 1 – Introduction
    - Chapter 2 – Planning
    - Chapter 3 – Socio-Economics, Recreation and Tourism
    - Chapter 4 – Landscape and Visual Impact Assessment
    - Chapter 5 – Ecology
    - Chapter 6 – Ornithology
    - Chapter 7 – Hydrology and Hydrogeology
    - Chapter 8 – Archaeological, Architectural and Cultural Heritage
    - Chapter 9 – Noise
    - Chapter 10 – Existing Infrastructure
    - Chapter 11 – Traffic and Transport
    - Chapter 12 – Miscellaneous Issues
    - Chapter 13 – Shadow Flicker Assessment
- Volume 3 – Figures; and
- Volume 4 – Technical Appendices

1.3 Together with the information listed above, this DAS will outline the siting, design and access considerations that have been taken into account when devising the Proposed Development. In doing so, it will confirm that the Proposed Development has been designed to best operate and fit into the bespoke context of the site in question whilst also demonstrating that appropriate access arrangements have been achieved and that the Proposed Development accords with all relevant planning policy.

The Principle of the Development

1.4 The Proposed Development seeks consent for proposed amendments to the Original Consent for the development of the Smulgedon Wind Farm, which was granted consent under planning reference B/2009/0070/F, at land located at Smulgedon Hill, south of Legavallon Road, approx. 9km to the north east of Dungiven and 8km west of Garvagh, Co. Londonderry, (the Application Site).

1.5 The principle of a Wind Farm development at the Application Site has therefore been established with the site having been confirmed as both acceptable and suitable for such purposes, and with the development having been confirmed as commenced.

1.6 This application does not constitute the development of a new greenfield site and is required to ensure that the principle of the consented development can be brought to fruition.

The Proposed Development

1.7 The proposed amendments to the Original Consent consist of a reduction in the overall tip height from 120.5m to 114.90m (5.6m) and hub height from 85m to 68.9m (16.1m), and to increase the rotor diameter from 71m to 92m (21m) for all seven turbines. This larger rotor diameter will result in the harnessing of wind energy using more modern and efficient turbines that maximise the potential of the site, with only a minor alteration. In addition to this, the reduction in tip and hub height will make the turbines less prominent. There will also be minor increases to the size of the crane pads and wind turbine foundations to accommodate the newly proposed turbine models.

1.8 The proposed amendments also incorporate a new development site entrance; relocation of the combined substation and construction compound area; and, a revised access track route to service T1, T2, T5 and T6, (as per previous consent B/2013/0196/F)

1.9 The installed capacity will be 16.45MW and the development area will be 6.12ha.

The Requirement for a Design and Access Statement

1.10 The Statutory provisions which set out the requirements for a DAS are found in Section 40(3) of the Planning Act (Northern Ireland) 2011[1] and Article 6(a) of the Planning (General Development Procedure) Order (Northern Ireland) 2015[2].

1.11 Further to the above, the Development Management Practice Note 12: Design and Access Statements, 2015[3] provides guidance on the key requirements, procedures and good practice when producing a DAS. Particular regard should be paid to Section 8 of this document that is entitled 'Summary' and confirms that:

> *"The level of information and detail in the D&AS should be proportionate to the scale, complexity and nature of the application"*

1.12 The DAS focuses only on the areas of the consented development that are being amended, i.e.

- The wind turbines;
- The foundations; and
- The crane pads

1.13 This DAS, which is to be read in conjunction with the Planning Statement, seeks to outline the siting, design and environmental assessments and policy considerations that have been taken into account when devising the Proposed Development. In doing so, it will confirm that, with full consideration for all relevant planning policy, the Proposed Development has been designed to best operate and fit into the bespoke context of the Application Site in question whilst also demonstrating that appropriate access arrangements have been achieved.

[1] https://www.legislation.gov.uk/nia/2011/25/section/40
[2] https://www.legislation.gov.uk/nisr/2015/72/article/6/made
[3] https://www.planningni.gov.uk/index/advice/practice-notes/dm_practice_note_12_das_complete-3.pdf

PLANNING POLICY

The Development Plan

1.14 The following Development Plan document is applicable and provides the localised policy context for the Proposed Development

- The Northern Area Plan (NAP) 2016[4]

Regional Planning and Planning Policy Context

1.15 The following documents provide the Regional Planning and Planning Policy Context for the Proposed Development all of which have been taken into account when finalising the Proposed Development:

- The Regional Development Strategy 2035 (RDS)[5]
- The Strategic Planning Policy Statement (SPPS)[6]

1.16 The following Planning Policy Statements (PPSs)[7] have been considered relevant and have been taken into account when formulating the Proposed Development:

- PPS 2: Natural Heritage
- PPS 3: Access, Movement and Parking
- PPS 6: Planning, Archaeology and Built Heritage
- PPS 13: Transport and Land Use
- PPS 15: Planning and Flood Risk
- PPS 18: Renewable Energy
- PPS 21: Sustainable Development in the Countryside

Other Guidance and Advice

1.17 The following Other Supplementary Planning Guidance[8] documents are applicable to the Proposed Development:

[4] https://www.planningni.gov.uk/index/policy/development_plans/devplans_az/nap2016-volume1-strategy-framework.pdf
[5] https://www.planningni.gov.uk/index/policy/rds2035.pdf

[6] https://www.planningni.gov.uk/index/policy/spps_28_september_2015-3.pdf

[7] https://www.infrastructure-ni.gov.uk/publications/retained-planning-policy
[8] https://www.infrastructure-ni.gov.uk/articles/other-supplementary-planning-guidance

- Best Practice Guidance to PPS 18 'Renewable Energy'
- Wind Energy Development in Northern Ireland's Landscapes (August 2010)

1.18 The following Development Control Advice Notes (DCANs)[9] are relevant and have been taken into account:

- DCAN 15: (2nd Edition) Vehicular Access Standards

[9] https://www.infrastructure-ni.gov.uk/publications/development-control-advice-notes

SITING

Site Location

1.19 The Application Site is located at Smulgedon, approximately 9km to the northeast of Dungiven and 8km west of the village of Garvagh in County Derry/Londonderry, Northern Ireland. Gortnamoyagh Forest surrounds the eastern and southern edge of the overall (consented) development boundary. This range of mountains and hills forms a long series of prominent ridges, uplands and valleys that stretch in a broad arc for approximately 35km between Malligan in the north to the Sperrin Mountains in the south.

Site Context

1.20 The site boundary associated with the original application (B/2009/0070/F) is 92.4 hectares. However, as highlighted previously, the Application Site for this amendment application encompasses the land around the swept path area of the turbines; the wind turbine foundations; and the associated crane pads. It also incorporates a new development site entrance; relocation of the combined substation and construction compound area; and a revised access track route to service T1, T2, T5 and T6, (as per previous consent B/2013/0196/F).

1.21 The area that encompasses the amendment application (the "Application Site") lies at an elevation of approximately 210m AOD (in the west) – 290m AOD (in the east) and covers a total area of c. 6.12 hectares. It is centred at approximate Grid Reference (NGR) E276110 N41474 on the small Smulgedon Hill, which is sandwiched between larger summits to the north and south. Smulgedon Hill is a small irregular-shaped hill rising to approximately 290m above sea level. It is overshadowed immediately to the north by Donald's Hill, Rigged Hill and Boyd's Mountain which together form a plateau, approximately 380m high.

1.22 Local topography is broadly defined by undulating hills, with the development area generally sloping from west to east. The current landuse within the land holdings is grazing, with heath, unmanaged grasslands and semi-improved grassland present. Fields within the land holdings are bound by post and wire fencing throughout the area. The Legavallon Road runs in a general east to west direction along the north eastern boundary of the land holdings before turning south through the very eastern part of the land holdings for circa 840m and exiting the site to the east. The Belraugh Road also runs east to west for circa 330m along the most eastern part of the northern boundary of the Original Application Area.

Initial Site Identification

1.23 As indicated above, the principle of a Wind Farm development at the subject site has been established with the granting of the Original Consent. However, when seeking to identify a viable site for development the original developer will have had to consider the following are key attributes:

- Sufficiently high wind speeds to ensure energy production from the wind turbines that would yield an adequate return on investment;
- Sufficient area to accommodate the number of wind turbines required for economic viability;
- Adequate vehicular access to a site using existing roads wherever possible to minimise the amount of civil works, particularly during the construction phase;
- Appropriate terrain and topography to ensure clean wind flow across a site;
- Appropriate turbine selection for site specific requirements and to maximise performance, specification and life-span;
- Suitable ground conditions for the construction of wind turbines and their foundations and the provision of access tracks and cable works;
- Compliance with planning policy; and
- Minimisation/avoidance of unacceptable impacts on designated areas and assets; amenity; major electromagnetic transmission apparatus and airport communication systems;

1.24 The reader will appreciate that the granting of the Original Consent is evidence in itself that the abovementioned criteria have been met.

DESIGN

Design Principles

1.25 The proposed site design reflects that which formed the basis of the Original Consent which was, at the time, optimised in order to maximise the use of the land available for wind power generation whilst balancing the overall potential impacts of the Development. The subject application seeks amendments to only the turbines, their foundations and the associated crane pads.

1.26 In devising the design of the original consent and the proposed amendments, the following considerations have been taken into account:

- The separation of wind turbines by specific distances both perpendicular to, and in line with, the prevailing wind direction to minimise turbulent interaction between the wind turbines (i.e. wake effect), balance turbine performance with energy extraction, and to protect the life-span of the turbines;
- The turbines are sufficiently distanced from occupied residential property to ensure adherence to relevant noise criteria and to minimise the impact of shadow flicker to an acceptable level;
- The development seems to avoid and/or minimise potential effects on environmentally sensitive features (i.e. Geology, Hydrology, Soils, Peat, Ecology, Bats, Ornithology, Archaeology, etc.);
- All relevant landscape and visual design considerations have been taken into account; and
- All infrastructure had been designed to operate at optimum efficiency and has been limited to a minimum operational amount.

Turbines

1.27 The site has been designed to accommodate seven turbines with a maximum height to blade tip of 114.90m above ground level. The turbines will be of the three bladed horizontal axis type, with a maximum hub height of 68.9m and a maximum rotor diameter of 92m. This will allow for turbines with individual generating capacities of 2.35MW and will give a combined installed capacity for the site of up to 16.45 MW.

1.28 The proposed amendments to the Original Consent consist of a reduction in the overall tip height from 120.5m to 114.90m (i.e. a reduction of 5.6m) and hub height from 85m to 68.9m (i.e. a reduction of 16.1m) and to increase the rotor diameter from 71m to 92m (i.e. an increase of 21m) for all 7 turbines.

1.29 This larger rotor diameter will result in the harnessing of wind energy using more modern and efficient turbines that maximise the potential of the site, with only a minor alteration. The reduction in tip and hub height will make the turbines less prominent.

1.30 The various design considerations that have been taken into account when identifying a suitable turbine for the Proposed Development have been outlined below:

- The chosen wind turbine model will have full certification from an internationally recognised authority and have a proven track record of safe operation.
- The turbines would be of a variable speed type, so that the turbine rotor speed would vary according to the energy available in the wind.
- The turbines will be computer controlled to ensure that at all times the turbine faces directly into the wind to ensure optimum efficiency.
- The turbines are fitted with sensors that, in instances of unexpected extreme winds which exceed safe operating limits, the rotor blades will be braked and parked in a safe position.
- The rotors of all seven turbines would rotate in the same direction.
- The blades would be manufactured from fibre-reinforced epoxy; the nacelle houses the generator and is mounted on a cylindrical steel tower manufactured from rolled steel.
- The turbines will be equipped with lightning protection equipment. In the unlikely event that lightning occurs, the equipment effectively and safely conducts the lightning strike down the tower and into the earth.
- Ice throw has been noted as a risk in extremely cold conditions, for example in the high latitudes of Scandinavia or the very high altitudes in Europe. Due to the more temperate climate of the UK, it is considered that weather conditions which encourage ice throw / fall occur on an extremely limited basis in NI. However, despite the low risk, turbines will be fitted with vibration sensors which detect any imbalance which might be caused by icing, in which case the affected turbines would be shut down.
- Subject to agreement with the Local Planning Department the finish and colour of the turbines will be light grey with a semi-matt finish to reduce their contrast with the background sky and minimise reflections. The turbines will be uniform in colour and will not contain any company logos.

Turbine Foundations

1.31 Appropriate turbine foundations are required to ensure safe operation and stability. The final foundation design is based upon the results of the detailed geotechnical investigations at pre-construction stage and is specific to the nominated turbine, imposed loadings, ground conditions and drainage designs. A typical turbine foundation is illustrated in **Figure 3.**

1.32 It is not anticipated that turbines would require piled foundations and it is envisaged that the proposed foundations will measure 17.2m in diameter with a concrete depth of approximately 2.7m (see **Figure 4**). The foundation would include a circular steel support plinth to suit the base profile of the tower section. An up stand of about 1.4m would be constructed and embedded in the foundation and would include fixing bolts for the turbine tower and several service ducts to allow electrical and communication cable connections to be made.

1.33 Upon completion of the foundation, the excavation would be backfilled with previously excavated material and compacted and dressed back with subsoil and then topsoil to allow revegetation. The soil would be allowed to regenerate from the seed bank within the topsoil. A gravel access path would be left to the turbine tower entrance and a parking area at the base of the turbine.

1.34 It is envisaged that each turbine foundation will approximately 388m^3 of concrete.

Crane Pads

1.35 Each turbine requires an area of hard standing to be built adjacent to the turbine foundation. This provides a stable base on which to lay down the turbine components ready for assembly and erection and to site the two cranes necessary to lift the three tower sections, nacelle and rotor into place.

1.36 The crane hard standing would be left in place following construction in order to allow for use of similar plant should major components need replacing during the course of the wind farm's operational life. The hard-standing area would be covered with subsoil and topsoil and allowed to naturally re-vegetate. The total area of hard standing at each turbine location, including the turbine foundations and the crane pad would be approximately 1227.91m^2 (24m x 45m). A typical crane hard standing is illustrated in **Figure 5**.

ACCESS

Access Considerations

1.37 The proposed access arrangements reflect that which formed the basis of the B/2013/0196/F Consent. These previously consented access arrangements are again replicated in this application and the following key considerations that were taken into account during the design and assessment of access arrangements for the original and other consents have again been reviewed in the formulation of the Proposed Development:

- Access routes for abnormal indivisible loads (AIL), normal construction traffic and associated road improvements;
- The type and volume of traffic generated by the proposed Wind Farm Development;
- Identification of sensitive/critical locations along the delivery route;
- Site access and egress and internal access tracks;
- Disabled Access;
- The impact of construction, operation and decommissioning traffic;
- Mitigating measures and the evaluation of residual impacts;
- Cumulative impact of surrounding consented and proposed developments; and
- Relevant legislation and policy context

Site Access

1.38 As per the B/2013/0196/F Consent, the main site access would be taken from the B69 and will have an access gate. The access tracks and access point are not being amended as part of this proposal; the Applicant is merely for these to be re-consented. The intent is that these will be constructed as per the original consents..

1.39 Access to the proposed Smulgedon Wind Farm, individual turbines and associated substations will be strictly controlled, with designated key and permit holders. Restricted access will only be to authorised persons, or persons under authorised supervision, and therefore the operation of the wind farm can only be carried out under specific strict rules and conditions established by the owner and operator.

1.40 The Proposed Smulgedon wind farm is located on private land with no Public Rights of Ways (PRoWs) located within the Application Site. It will not be possible for the public to access the site, unless under the supervision of authorised persons.

PRE-APPLICATION CONSULTATION

1.41 Prior to the submission of the subject application the Applicant has sought to engage with both the Council, as Local Planning Authority, and both the local community and stakeholders, in order to ensure that all parties have been informed appropriately of the proposed amendments to the consented Wind Farm development.

Pre-application Consultation with the Council

1.42 Prior to the submission of the subject application, a number of meetings and discussions have taken place between the Applicant, their Agents and the Council. On 13 August 2018 personnel from the Applicant and Agent met with the Council to review the status of the project and the conditions that had been attached to the original consent. On 28 June 2019 a further meeting with the Council was undertaken to review the implications of having to utilise an alternative candidate turbine for the project, for the development to be brought to fruition. It was agreed at this meeting that a new application would be required but that an Environmental Impact Assessment would not be required as per Part 4, paragraph 13 of the EIA Regs (2017). However, having submitted an application on this basis it has since come to light that the Council position on this matter has changed. Therefore, it has now been agreed that an EIA fee will be paid and the application will be accompanied with an Environmental Statement (ES); hence the reformat of this application.

Pre-application Consultation with the Community

1.43 Engaging with communities is an essential part of an effective and inclusive planning system and the Applicant has submitted a Pre-application Community Consultation (PACC) Report with this application explaining how and when the community was consulted on the subject proposal at a pre-application stage and how the results of this consultation have both been evaluated and have influenced the Proposed Development.

1.44 In summary, the Applicant can confirm that although a standard Proposal of Application Notice was submitted in March 2020, the national lockdown caused by the outbreak of the Covid-19 pandemic meant that public exhibitions could no longer take place. However, as a result of Emergency Planning Regulations and Guidance being introduced to facilitate workaround solutions for major applications, developers and Local Planning Authorities, the Applicant had to adapt their consultation strategy to allow progression to an application stage. As will become evident from reading the PACC Report, the consultation exercise resulted in a very limited amount of feedback being received in relation to the proposed amendments with no alterations to the siting and design of the Proposed Development requested by stakeholders or consultees prior to the submission of this application.

Landscape and Visual Considerations

1.45 As will be expanded upon within Chapters 2 and 4 of the submitted Environmental Statement, a Landscape and Visual Impact Assessment has been undertaken based upon a 35km study zone, in order to consider the construction, operation and decommissioning phases of the Proposed Development and taking account of all changes that have occurred within both the study zone and Northern Ireland's Planning Policy or Legislative landscape since the Original Consent's LVIA was undertaken in 2008.

1.46 The LVIA includes updated Zone of Theoretical Visibility productions (ZTVs) and 20 wirelines and photomontages taken from a range of close, medium, long and distant views from across the study zone. These latter productions offer representative views providing a worst case scenario for a range of receptors including Statutory and Non Statutory Designations, and sensitive areas such as AONBs, walking or scenic driving routes.

1.47 The LVIA has also identified and considered impact upon a variety of Statutory Designations and Non-Statutory Designations, none of which have been amended since the 2008 assessment, and has reviewed the Proposed Development in a context of existing Landscape Character Studies and other Wind Energy development.

1.48 In terms of Landscape Value and Landscape Sensitivity, the LVIA assesses the wider landscape and the Application Site itself and when considering the issue of Visual Impact, mitigation and both residual and cumulative effects are addressed. In conclusion, the LVIA confirms that the greatest change to the landscape across the study zone has been the increase in wind energy development, which varies from smaller scale farm turbines to large wind farm developments. However, with regards to the impact that the Proposed Development will have, the LVIA concluded that:

1.1. *"Only those receptors within close range of the Proposed Development will notice the proposed turbines greater blade sweep area and lower blade tip height. The majority of receptors will find it hard to differentiate between the two developments, given there is no change to their location within the Application Site upon Smulgedon Hill. Any potential landscape or visual effects due to the differences in the proposed and consented crane pad are negligible.*

1.2. *Overall, the principles of the Proposed Development are very much the same as that of the Original Consent which has already been granted and any adverse landscape, visual and cumulative effects of both."*

1.3. Paragraphs 4.276 and 4.277, Chapter 4, Landscape and Visual Impact Assessment

SUMMARY/CONCLUSION

1.49 The Original Consent confirms that appropriate site has been selected for the principle of a Wind Farm development and that acceptable access arrangements have been achieved. The DAS confirms that access provision and arrangements will remain as per the Original Consent and that the siting and design of the proposed amendments, i.e. the turbines, the foundations and the crane pads, have been finalised following appropriate pre-application consultation and a review of all relevant planning, environmental and technical considerations.

1.50 The Proposed Development seeks to facilitate the installation of up to date wind turbines to maximise the capacity and yield of the Wind Farm whilst minimising environmental impacts and conserving amenity. Furthermore, if approved, the Wind Farm could account for up to 16.45MW of installed renewable electricity capacity and an output of 51,400MWhr/annum, which, based on an assumed average medium-sized home energy consumption of between 3,000 and 3,500kwh, would power almost 15,000 homes.