



A specialist energy consultancy

Planning Statement

Blackhillock Synchronous Compensator

ESB

15 December 2020

COMMERCIAL IN CONFIDENCE

Quality Assurance

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Document Control

Revision	Status	Prepared by	Checked by	Approved by	Date
D0	DRAFT	JR/GL	JMc	JMc	30/11/2020
R0	FINAL ISSUE	JR/GL	JMc	JMc	15/12/2020

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Contents

Document Control.....	3
Contents.....	4
1 Introduction	6
1.1 Summary	6
1.2 Statement Approach	6
2 Background to the Proposed Development	7
2.1 Need for the Proposed Development.....	7
2.2 Pre-Application Advice.....	7
2.3 Site Location and Physical Context	7
2.4 Social and Economic Context	8
2.5 Design and Access	8
2.5.1 Site Selection.....	8
2.5.2 Detailed Layout Design	9
2.5.3 Appearance, Amount and Scale.....	9
2.6 Access.....	12
2.6.1 Vehicle Access	12
2.6.2 Construction Period	12
2.6.3 Operational Period.....	12
3 Planning Policy	13
3.1 Introduction	13
3.2 Development Plan.....	13
3.2.1 Moray Local Development Plan 2020.....	13
3.3 Material Planning Considerations.....	16
3.3.1 National Planning Framework 3.....	16
3.3.2 Scottish Planning Policy	17
3.3.3 Climate Emergency & Renewable Energy Policy	17
3.3.4 Renewable Energy Directive	17
3.3.5 Scottish Government Policy.....	18
3.3.6 Climate Change Committee 2019 Progress Report	18
3.3.7 UK Net Zero Target.....	19
3.3.8 The Scottish Energy Strategy (2017)	19
3.3.9 The Onshore Wind Policy Statement (2017).....	19
3.3.10 The Climate Change Plan (2018)	19
3.3.11 Declaration of a Climate Emergency.....	20



3.3.12	Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	21
4	Planning Appraisal.....	22
4.1	Compliance with the Local Development Plan	22
4.1.1	Development Policy 9: Renewable Energy	22
5	Planning Balance	27

1 Introduction

1.1 Summary

This Planning Statement has been prepared by TNEI Services Limited (TNEI) on behalf of ESB to accompany an application for planning permission for the construction and operation of a synchronous compensator on land immediately to the south of Blackhillock Substation ('the Substation') at Keith, Moray, AB55 5NY (hereafter referred to as the 'Proposed Development'). A site location plan including red line planning application boundary is shown in Figure 2.1 of the Environmental Report.

1.2 Statement Approach

This Statement combines the Planning Statement and Design and Access Statement requirements and comprises a series of sections which cover the design principles and concepts that have been applied to the Proposed Development in response to its context and how issues relating to access have been dealt with. It also includes a planning policy appraisal. The structure of this Statement is:

- Section 1: Introduction.
- Section 2: Background to the Proposed Development.
- Section 3: Planning Policies.
- Section 4: Planning Appraisal
- Section 5: Planning Balance

2 Background to the Proposed Development

2.1 Need for the Proposed Development

A synchronous compensator is a rotating electrical machine that resembles a generator/motor in design. Unlike a generator/motor, a synchronous compensator is not coupled to a prime mover or load, hence the only real power flow is a small percentage of rated power imported to support its internal losses. Its purpose is to support the transmission system voltage by supplying/absorbing reactive power and providing synchronous inertia. The process to supply/absorb reactive power is based on varying excitation of the synchronous compensator. Therefore, there is no combustion in a synchronous compensator and no emissions. Synchronous compensators are a very mature technology, having been used since the 1950s.

Synchronous compensator projects, such as the Proposed Development, are very beneficial to the UK's transmission system in that they increase the heavy rotating mass (important for the stability of the transmission system) without the fuel requirement or emissions. Synchronous compensator developments would help create stability in the grid, reacting when extra power is needed and providing more control over voltage. This would allow for increased renewable energy generation connecting onto the National Grid, thereby supporting the network.

Ultimately, the Proposed Development as well as other technologies, offer a valuable contribution to the UK's secure, low carbon and affordable electricity system, at least cost to consumers.

2.2 Pre-Application Advice

A Request for an EIA Screening Opinion (Appendix A) was submitted to Moray Council on 31st July 2020. An Opinion (Appendix B) was issued on 13th November 2020 (Application Ref: 20/00962/SCN/NM/LMC) which confirmed that the Proposed Development would not require an Environmental Impact Assessment (EIA) to accompany this planning application.

2.3 Site Location and Physical Context

The Site is located on agricultural land immediately to the south of Blackhillock Substation, Keith, Moray. The Site centre point grid reference is approximately NJ 43221 48131. The Site has been selected due to the availability and proximity of suitable electrical infrastructure connection points, which is the biggest locational challenge for sites of this nature.

The area immediately surrounding the Site is dominated by large scale electrical infrastructure in the form of the adjacent Blackhillock electrical substation, encompassing an area approximately 25 hectares in size to the north of the Site. Large pylons and associated power lines cross the landscape surrounding the Site, originating from the Substation, including two pylons lying in the field within which the Site is located. The landscape to the east of the Site is dominated by the Blackhillock and Cairdshill quarries, located approximately 300 m from the proposed Site boundary. The adjoining quarries encompass an area approximately 21 hectares in size and adds to the industrial nature of the Site's immediate surroundings.

The wider surroundings of the Site are predominantly agricultural, comprising a series of open grassland and arable farmland. A large section of woodland lies adjacent to the western Site boundary,

with Edintore Wind Farm lying beyond that, approximately 1.2 km to the south west of the Site. The wind farm, operational since 2017, comprises 6 turbines at a height of 125 m to blade tip, representing a major feature in the local landscape.

The nearest residential properties, Blackhillock Croft and Green of Aucharties, are located adjacent to the Site, to the north and south of the proposed access track. Partial screening along the curtilage of the properties in the form of existing trees would help to screen it from the Proposed Development. Keith town centre is located approximately 2 km north of the Site and represents the nearest major residential area.

Access to the Site would be via existing access roads to the east used for access to adjacent residential properties and nearby quarries. A short length of new aggregate access track would be required for access into the field in which the Proposed Development would be sited. The technical and environmental assessments and feedback from pre-application consultation and the Screening exercise have been used to determine the final design and layout arrangement.

The Site does not lie within an area at risk of flooding or within a Potentially Vulnerable Area according to the Scottish Environmental Protection Agency (SEPA) Flood Map.

According to the Council's 2015 and proposed 2019 proposal maps, the Site does not lie within or in close proximity to any locally designated areas.

2.4 Social and Economic Context

The Proposed Development would provide economic benefits to the local area, which in turn, although temporary, could support wider employment opportunities with associated jobs e.g. construction industry, supply chain as well as providing more reliability of the electricity network.

The Proposed Development would result in an improvement to the reliability of the electrical network. In the move toward a low carbon economy, it would allow increasing levels of renewable energy generation to be more fully integrated into the electrical system.

The granting of planning permission would support the deployment of a mature technology in the UK, with the ultimate aim of making a valuable contribution to the UK's secure, low carbon and affordable electricity system, at least cost to consumers.

2.5 Design and Access

This section outlines how the design of the Proposed Development evolved and includes the key decisions taken in the design stage, including evaluation of constraints and demonstrates that the design of the Proposed Development is reflective of its surroundings.

The technical and environmental assessments and feedback from the screening exercise were used to determine the final siting and layout of the Proposed Development.

2.5.1 Site Selection

There are limitations to the availability of sites that have the ability to connect to the electrical grid networks. Both are essential to a project of this type and to develop a proposal that results in acceptable environmental effects.

The Applicant, has undertaken a study of areas of search around National Grid substation sites with the transmission capacity and potential to host the scale and form of development proposed. A feasibility exercise considered all technical, environmental and land use constraints as well as the availability of electrical connections for these sites. From that process, only four sites (including this one) have been suitable to progress through to detailed design, environmental reporting and submission of a planning application.

2.5.2 Detailed Layout Design

The layout and design process for the Proposed Development was an iterative one informed by consideration of a variety of environmental and technical assessments, professional advice from consultants and the EIA Screening response received from the Council. Indicative layouts were developed on the basis of initial site visits, desk-based information and assumptions based on known constraining factors. More detailed site assessment and investigation was then undertaken by obtaining baseline information relating to environmental effects including noise emissions, ecological constraints, cultural heritage assets and landscape character.

Following the collation of this baseline information, initial noise monitoring and ecological surveys took place to determine the optimum location and layout of the Proposed Development whilst considering all other environmental factors.

At this stage, key determining factors, included protection of residential amenity through the minimisation of impacts relating to noise and visual impact and to minimise disturbance to local wildlife and areas of ecological interest. This approach to site design has minimised the environmental impact at an early stage. The proposed layout is considered to provide the most suitable design layout for the Site, taking into account the site constraints and opportunities.

The final design of the Proposed Development is therefore a careful balance between addressing site constraints, minimising environmental impact and ensuring commercial viability.

2.5.3 Appearance, Amount and Scale

The scale and site parameters of the Proposed Development are shown on Figures 2.2 and 2.3. The process to supply/absorb reactive power is based on varying excitation of the synchronous compensator. During its operational phase, the Proposed Development would provide reactive power and inertia. As National Grid increase the amount of electricity from renewable generators, amongst other forms of generation, they would call upon reactive power and inertia from the synchronous compensator to maintain the stability of the grid. The plant is anticipated to be in constant operation and therefore, assessment work (e.g. noise) has taken a cautious approach to hours of operation, for example assuming for the purposes of noise assessment that the plant would operate during night time hours.

It is important to recognise that the components of the Proposed Development are necessarily functional and that the footprint is considered to be the minimal amount needed in order to ensure that its proposed benefits are maximised. This will ensure that the proposed facility will be capable of providing reliable support to the UK's transmission system. The site design and layout is the most compact solution in this location taking account of layout constraints, in particular the surrounding ecological constraints, making use of the existing hardstanding on the Site and existing access.



2.5.3.1 Physical infrastructure

The Proposed Development, which would be located within a fenced compound c. 0.5 ha, would consist of a 300 to 400 MVA (electrical rating) synchronous compensator, including the following elements:

- Generator and Flywheel building to house equipment including the generator, flywheel, lube oil skid, air compressor and pumps;
- Supporting items of plant located within the compound including;
 - Cooling equipment;
 - Modular containers to house electrical and control equipment;
 - Generator step-up transformer, auxiliary transformer and electrical plant including an external circuit breaker;
- Drainage including swales, drainage pipes and reinforced concrete bunds with integrated oil interceptors;
- All other ancillary and miscellaneous site works including site clearance, site access, internal access tracks and development of areas of hardstanding including a maintenance laydown area; and
- The development would be bounded by a c. 3 m high chainlink fence. Site access would be by means of a c. 2.7 m high palisade gate.

For ease of understanding of the elements and limited scale of the Proposed Development, Table 5.1 identifies the various dimensions associated with each of the proposed key aspects of the plant as illustrated by the accompanying planning drawings.

Table 2.1: Development dimensions

Plant / Equipment	Dimensions (Length x Width x Height to nearest m)
Generator and Flywheel Building	27 m x 16 m x 15 m
Generator Step Up Transformer	15 m x 10 m x 8 m (10 m height of bushing)
Unit Auxiliary Transformer	6 m x 5 m x 4 m
Medium Voltage Circuit Breaker (including access)	11 m x 6 m x 9 m
High Voltage Switchgear	15 m x 12 m x 9 m
Coolers	46 m x 4 m x 3 m
Electrical Containers (including access)	24 m x 15 m x 6 m

2.5.3.2 The Synchronous Compensator Compound

The Proposed Development would be contained within a fenced c. 0.5 ha compound. The compound would include all equipment and plant associated with the development as outlined by the following sections, in addition to internal access roads and site attenuation. Typical elevations for the compound and equipment are shown in Figure 2.3 of the Environmental Report.

2.5.3.3 Generator and Flywheel Building

The main building would house the synchronous compensator and flywheel as well as lube oil skid and air compressor. The overall footprint of the building would be approximately 420 m². Figures 2.2 and 2.3 show the proposed layout and elevations of the plant/building which illustrate their overall heights.

Synchronous compensators are proposed for a variety of reasons, including the following:

- To facilitate the increased generation of renewables on the transmission system;
- To support the transmission system during faults by providing inertia and voltage control;
- As they use no fuel and result in no emissions; and
- The high reliability of the technology.

Detailed design of the plant would be carried out following the selection and confirmation of the supplier.

2.5.3.4 Associated Electrical Plant

Other buildings and balance of plant included within the compound would include the following:

- Transformers including a main step up transformer and station transformer; and
- Electrical/control containers.

2.5.3.5 Electrical Cables and Connections

To minimise ground disturbance and facilitate ease of routing maintenance, it is proposed that onsite cables between the synchronous compensator plant and their associated ancillary equipment will be laid above ground. The exact details are subject to detailed design and would be confirmed by the electrical designer following a procurement process.

2.5.3.6 Connection to the Grid Network

One main step up transformer would be required onsite. This would help step up the voltage from medium voltage (MV) to high voltage (400 kV). This transformer would have an appropriate bund constructed around (e.g. a reinforced concrete pit which would be gravel filled and have 110% capacity with a gravity oil interceptor in one corner) to capture any oil leaks. It would also benefit from fire protection, including fire walls, if necessary, as part of the detailed engineering design. Consent to construct and operate the grid connection does not form part of this application and will be subject to a separate application.

2.6 Access

2.6.1 Vehicle Access

The Proposed Development would utilise an existing access leading off the A96, to the east of the site. This access is also used for the Blackhillock and Cairdshill quarries, as well as the adjacent residential properties. The existing access tracks may be required to be widened and resurfaced between the Site and the substation access. A short length of new track (approximately 330 m) is proposed to provide access to the Site from the highway immediately to the south of Blackhillock Croft.

2.6.2 Construction Period

The construction period would last approximately 18 – 24 months. All construction impacts would be fully reversible at the end of that time. At peak levels of activity, generated daily trips of Heavy Goods Vehicles (HGVs) and Light Goods Vehicles (LGVs) would be low. Estimated peak movements would equate to 70 vehicles per day when most materials would be transported to Site. This would be made up of a predicted mix of 15 HGVs (two way movement) and 20 LGV (two way movement).

Construction vehicles would be likely to drive from the A96 and a length of new access track would be required to allow access into the field in which the Proposed Development would be sited as shown on Figure 5.1 of the Environmental Report.

During construction, a temporary construction compound area, shown on Figure 2.2, would be used to accommodate vehicles.

2.6.3 Operational Period

During the operational period the Proposed Development there would be a limited number of vehicle movements associated within ongoing maintenance and management. Visits would be made using light vehicles and no material effects on the highways network are predicted. During the operational period, maintenance vehicles would utilise space within the Site itself to accommodate vehicles.

3 Planning Policy

3.1 Introduction

Section 25 and 37(2) of the Town and Country Planning (Scotland) Act 1990 (TCPA) require applications to be determined in accordance with the development plan, unless material considerations indicate otherwise. The TCPA does not provide a definition of what constitutes a ‘material consideration’ in so far as is relevant to planning applications. However, it is generally accepted in case law that any consideration which relates to the use and development of land should be capable of being a material consideration. The weight to be attached to any material consideration in reaching a decision is a matter of judgement for the decision-taker. However, the decision-taker is required to demonstrate that in reaching that decision they have considered all the relevant matters.

This section appraises the scheme in the context of the statutory development plan and other material planning considerations. It provides an overview of the relevant statutory development plan policies and identifies relevant material planning considerations, including the policies within the emerging development plan, as well as other policy documents relevant to the determination of the planning application. In combination, these sections identify the relevant planning context. This section sets out an appraisal of national and local policy relevant to the Proposed Development and material in deciding the application as well as setting out other supporting documents.

3.2 Development Plan

The document against which development proposals are currently assessed is Moray Local Development Plan 2020.

3.2.1 Moray Local Development Plan 2020

The Moray Local Development Plan 2020 was formally adopted on 27th July 2020. This Plan sets out how the Council sees the Moray area developing over the next 10 years. The main aims and objectives of the plan include:

- *“Encourage efficient use of land and promote low carbon and sustainable development.*
- *Protect and enhance the built and natural environment.*
- *Improve resilience of the natural and build environment to climate change”.*

DP 9: Renewable Energy

This policy can be considered relevant in the absence of a policy that specifically deals with the development of grid network infrastructure. It is important to note though that the criteria applied were developed to enable decision making on large scale renewable energy generation projects. It states that all renewable energy proposals will be considered favourably where they meet the following criteria:

- “They are compliant with policies to safeguard and enhance the built and natural environment;*
- They do not result in the permanent loss or permanent damage of prime agricultural land;*
- They avoid or address any unacceptable significant adverse impacts including:*

- *Landscape and visual impacts.*
- *Noise impacts.*
- *Air quality impacts.*
- *Electromagnetic disturbance.*
- *Impact on water environment.*
- *Impact on carbon rich soils and peat land hydrology.*
- *Impact on woodland and forestry interests.*
- *Traffic impact – mitigation during both construction and operation.*
- *Ecological impact.*
- *Impact on tourism and recreational interests.”*

As well as ensuring there are no significantly adverse impacts on the above listed criteria, consideration of the extent to which the proposal contributes to renewable energy generation targets, its effect on greenhouse gas emissions and net economic impact, including socio-economic benefits such as employment is required.

The following policies within the Moray LDP are relevant to the Proposed Development.

DP5 – Business & Industry

This policy states that proposals which deliver the aims of the Moray Economic Strategy will be supported. This policy also states that efficient energy and waste innovations should be considered and integrated within developments where possible.

This policy goes on to state that proposals for development within rural locations will be supported where there is a locational need for the site.

EP1 – Natural Heritage Designation

This policy sets out how biodiversity within Moray will be protected and, relevant to the Proposed Development, it provides criteria to consider impacts on protected species.

EP2 – Biodiversity

This policy goes beyond Policy EP1 and states that all proposals must, where possible, retain, protect and enhance features of biological interest and provide for their appropriate management. Where development may result in the loss of natural habitats of ecological amenity value, compensatory habitat creation will be required where deemed appropriate.

EP3 – Special Landscape Areas and Landscape Character

While the Proposed Development would not have any impacts on Special Landscape Areas, the second element of Policy EP3 applies in that all development is expected to reflect the character of its host landscape.

EP8 – Historic Environment

This policy states that where a proposed development potentially has a direct impact on a Schedule Monument, a Scheduled Monument Consent (SMC) is required. Proposals can not adversely affect the



integrity of the setting of Scheduled Monuments and unscheduled archaeological sites of potential national importance unless the developer proves that any significant adverse effects are clearly outweighed by the exceptional circumstances, including social or economic benefits of national importance. Similarly, proposals must not adversely affect sites of local archaeological importance or the integrity of their setting unless; the benefits to the proposals outweigh the archaeological value; consideration has been given to alternative sites for the development and preservation in situ is not possible; and where possible any adverse effects can be satisfactorily mitigated at the developer's expense.

EP9 – Conservation Areas

This policy states that proposals within a conservation area must preserve and enhance the established traditional character or appearance of the area. As the Proposed Development is not within a Conservation Area it is not relevant to decision making in this case.

EP10- Listed Buildings

This policy states that proposals which have a detrimental effect on the character, integrity or setting of a listed building will be refused.

EP11 – Battlefields, Gardens and Designed Landscapes

This policy states that proposals which adversely affect nationally designated Battlefields or Gardens and Designed Landscapes or their setting will be refused unless;

- a) The overall character and reasons for the designation will not be compromised, or
- b) Any significant adverse effects can be satisfactorily mitigated and are clearly outweighed by social, environmental, economic or strategic benefits.

EP12 – Management and Enhancement of the Water Environment

This policy states that proposals at significant risk of flooding from any source, or would materially increase the possibility of flooding elsewhere will not be supported. Proposals for development in areas considered to be at risk from flooding will only be permitted where a flood risk assessment to comply with the recommendations of Scottish Planning Policy are provided.

This policy also states that surface water from development must be dealt with in a sustainable manner that has a neutral effect on flooding or which reduces the risk of flooding. The method of dealing with surface water must also avoid pollution and promote habitat enhancement and amenity.

This policy also states that proposals must be designed to avoid adverse impacts upon the water environment, including Ground Water Dependent Terrestrial Ecosystems and should seek opportunities for restoration and/or enhancement, if appropriate. A buffer strip of at least 6 m between any new development and all water features is required and should be proportional to the bank width and functional river corridor.

EP14 – Pollution, Contamination & Hazards

This policy states that proposals which may cause significant air, water, soil, light or noise pollution or exacerbate issues must be accompanied by a detailed assessment report on the levels, character and transmission of the potential pollution with measures to mitigate impacts. This policy also states that proposals on potentially contaminated land will only be approved where they comply with other

relevant policies. This policy also states that proposals must avoid and not impact on hazardous sites or result in public safety concerns.

3.3 Material Planning Considerations

As set out above, planning permissions are required to be determined against the policies of the development plan unless material considerations indicate otherwise as stated in Section 25 of the TCPA. The requirement to have regard to “any other material considerations” is in effect a statutory requirement to ensure that all other relevant matters have been taken into account.

3.3.1 National Planning Framework 3

The National Planning Framework 3 (NPF3) was published on 23rd June 2014. An update to the NPF (NPF4) is anticipated. NPF3 sets out the long-term strategy for Scotland, and it is a spatial expression of the Government’s Economic Strategy and plans for development and investment in infrastructure, however it is now not up-to-date in terms of current climate change commitments. The application of NPF3 in conjunction with SPP at strategic and local levels is intended to help the planning system deliver the Scottish Government’s vision and outcomes for Scotland, as well as contribute to the Government’s central purpose.

The NPF3 is clear that planning must facilitate the transition to a low carbon economy, and help deliver the aims of the Scottish Government’s Report on Proposals and Policies. The key policy principles contained within NPF3 detail that the planning system should:

- Support the transformational change to a low carbon economy, consistent with national objectives and targets;
- Support the development of a diverse range of electricity generation from renewable energy technologies – including the expansion of renewable energy generation capacity – and the development of heat networks;
- Guide development to appropriate locations and advise on the issues that will be taken into account when specific proposals are being assessed;
- Help to reduce emissions and energy use in new buildings and from new infrastructure by enabling development at appropriate locations that contributes to:
 - Energy efficiency;
 - Heat recovery;
 - Efficient energy supply and storage; and
 - Electricity and heat from non-renewable sources where greenhouse gas emissions can be significantly reduced.

A Local Development Plan should support new build developments, infrastructure or retrofit projects which deliver energy efficiency and the recovery of energy that would otherwise be wasted both in the specific development and surrounding area. Local Development Plans should also set out the factors to be taken into account in considering proposals for energy developments.

The Scottish Government is in the process of preparing National Planning Framework 4 (NPF4) which will incorporate Scottish Planning Policy. NPF4 will have the status of the development plan for



planning purposes. This is a change to the current position and will mean that its policies will have a stronger role in informing day to day decision making. The Scottish Government's website Transforming Planning notes that NPF4 will address a number of high-level outcomes including 'Meeting any targets relating to the reduction of emissions of greenhouse gases' demonstrating a continued commitment to addressing the climate change emergency.

3.3.2 Scottish Planning Policy

Scottish Planning Policy (SPP) was published on 23rd June 2014 and as such is out-of-date with regards to the current climate change and renewable energy policy framework and in light of the declared climate emergency. The purpose of the SPP is to set out national planning policies which reflect Scottish Government Ministers' priorities for the operation of the planning system and for the development and use of land. The SPP is a statement of Scottish Government policy on how nationally important land use planning matters should be addressed.

Paragraph (iii) of the SPP states that the content of the SPP is a material consideration that carries significant weight, although it is for the decision maker to determine the appropriate weight to be afforded to it in each case.

The SPP contains two Principle Policies; sustainability and placemaking. With regards to sustainability the SPP states, "*the Scottish Government's central purpose is to focus Government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth*". The SPP also states, "*sustainable economic growth is the key to unlocking Scotland's potential. and to achieving a low carbon economy...*" also making reference to the need to maintain a high-quality environment and to pass on "*a sustainable legacy for future generations*".

A key policy principle introduced in the SPP is the presumption in favour of development that contributes to sustainable development. The SPP states that, "*the planning system should support economically, environmentally and socially sustainable places by enabling development that balances the costs and benefits of a proposal over the longer term. The aim is to achieve the right development in the right place; it is not to allow development at any cost.*"

3.3.3 Climate Emergency & Renewable Energy Policy

3.3.4 Renewable Energy Directive

The renewable energy directive (2009/28/EC) established the overall policy for the production and promotion of energy from renewable sources in the EU. In December 2018, the revised renewable energy directive 2018/2001/EU entered into force as part of the Clean energy for all Europeans package. A main aim of this directive was to support the EU in meeting its emissions reduction commitments under the Paris Agreement.

The new directive establishes a new binding renewable energy target for the EU for 2030 of at least 32%. As stated within Paragraph 60 of the Directive, "*There is a need to support the integration of energy from renewable sources into the transmission and distribution grid and the use of energy storage systems for integrated variable production of energy from renewable sources*".

3.3.5 Scottish Government Policy

The Scottish Government has brought forward numerous policies and pieces of legislation shaping its response to the issues of climate change and the need to decarbonise. These are material to decision making where development is proposed that helps achieve the aims and meet the targets set out within that framework. The key considerations are:

- The Renewable Energy Routemap and its Update (2015): first published in 2011, the routemap set out the strategy to allow Scotland to meet its various targets including to have 100% of Scotland's electricity demand supplied by renewable sources by 2020. The development of renewable energy generation, and in particular wind energy, was key and has remained so in the updates through to 2015;
- The Scottish Energy Strategy (2017) (the SES): set out a vision for Scotland's energy systems out to 2050. It emphasised the size of Scotland's renewable energy resource and continued to support the development of renewable energy generation. The SES recognised the constraints that the grid network placed on further development of renewable technologies and noted that innovation and a range of solutions would be required;
- The Onshore Wind Policy Statement (2017); focuses on the support required to further develop Scotland's onshore wind potential and recognises the need for innovative approaches to allow the grid network to accommodate high levels of renewable generation;
- The Climate Change Plan (2018); confirmed Scottish Government's support for the Paris Agreement and set more ambitious targets for electrification of the energy system and generation of that electricity from renewable sources. It highlighted the need for system quality and resilience and that this would come from diverse approaches including smart grid technologies; and
- The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019: The Scottish Government, having taken advice from the Committee on Climate Change, set a legally binding 'net zero' target for Scotland by 2045, five years ahead of the date set for the whole of the UK.

3.3.6 Climate Change Committee 2019 Progress Report

The Climate Change Committee present an annual report to Parliament. The report assesses the progress made in the reducing UK emissions over the previous year. The 2019 Report found that the UK action to curb greenhouse gas emissions was lagging behind what was required to meet legally-binding emission targets. It was noted that since June 2018 the Government has delivered only 1 of 25 critical policies needed to get emissions reductions on track.

The report recommended the following:

- Net-zero policy is embedded across all levels and departments of Government;
- Government policies to reduce UK emissions to net zero are business-friendly;
- The public are fully engaged in the UK's net-zero transition; and
- The UK strongly leads international action to tackle climate change.

3.3.7 UK Net Zero Target

The UK parliament passed legislation in June 2019 which required the government to reduce the UK's net emissions of greenhouse gases by 100% relative to 1990 levels by 2050. Net zero refers to achieving a balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere. There are two routes to achieving net zero which often work in parallel; reducing existing emissions and actively removing greenhouse gases.

In the Committee on Climate Change (CCC) 2019 report (detailed in Section 3.3.7), it recommended that the UK should aim to be net zero on all greenhouse gases by 2050 to ensure that the UK is in line with its commitments as part of the 2016 Paris Agreement to keep global warming under 2 degrees.

The Climate Change Act 2008 committed the UK to an 80% reduction in carbon emissions relative to the levels in 1990, to be achieved by 2050. Secondary legislation was passed in June 2019 that extended that target to "at least 100%".

3.3.8 The Scottish Energy Strategy (2017)

The Scottish Energy Strategy was issued in 2017 and provides guidance with regards to the decisions that the Scottish Government needs to make in order to achieve the long-term climate change targets. The Strategy sets out two new targets for the Scottish energy system by 2030:

- The equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources.
- An increase by 30% in the productivity of energy use across the Scottish economy.

There are six priority areas the Strategy focusses on; consumer engagement and protection, energy efficiency, system security and flexibility, innovative local energy systems, renewable and low carbon solutions and oil and gas industry strengths. The Proposed Development will support three of these priorities by enabling the grid network more flexibility, more renewable energy production as well as increasing energy efficiency

3.3.9 The Onshore Wind Policy Statement (2017)

The Onshore Wind Policy Statement (2017) details the findings of consultation with multiple organisations, groups and individuals to inform the Scottish Government of the issues raised by onshore wind and power.

In Chapter 4 of the Statement it notes the barriers to deployment of onshore wind include the electricity network; *"deploying more onshore wind will require accompanying investment in the transmission and distribution networks"*. The Proposed Development will enable the network capacity to keep pace with development and enable new projects to connect to the network.

3.3.10 The Climate Change Plan (2018)

The updated Climate Change Plan (2018) reflects the increased ambition of the new targets set out in the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019. The actions include:

- Reducing greenhouse gas emissions through a Just Transition to a net-zero economy and society;

- Driving Scotland’s adaption to climate change;
- Supporting decarbonisation in the public sector;
- Engaging with business and industry on decarbonisation;
- Encouraging individuals to move towards low carbon living;
- Leading international action on climate change;
- Supporting communities to tackle climate change through the Climate Change Fund;
- Supporting developing countries to tackle climate change through the Climate Justice Fund;
- Preparing to participate in a UK Emissions Trading Scheme (UK ETS) after leaving the EU ETS at the end of the EU Exit Transition Period; and
- Establishing a national Nitrogen Balance Sheet to keep track of how efficiently nitrogen is being used.

The majority of low carbon economic activity within Scotland has been associated with the provisions of renewables and low carbon electricity. There is however significant economic turnover for some other sectors, including provision of energy efficiency products and low carbon services. The investment into low carbon services will provide an opportunity for more balanced regional development within Scotland

3.3.11 Declaration of a Climate Emergency

The Scottish First Minister Nicola Sturgeon declared a “Climate Emergency” in her speech to the SNP Conference in April 2019, stating:

“As First Minister of Scotland, I am declaring that there is a climate emergency. And Scotland will live up to our responsibility to tackle it”.

In May 2019, the Committee on Climate Change (CCC) published ‘Net Zero – UK’s Contribution to Stopping Global Warming’. This report states that, *“Net Zero is a more fundamental aim than previous targets. By reducing emissions produced in the UK to zero, we also end our contribution to rising global temperatures”.* It goes on to state that, *“we must not increase our ambition to tackle climate change. The science demands it; the evidence is before you; we must start at once; there is no time to lose”.*

The report made the following recommendations for the UK economy:

- UK overall: a new tougher emissions target of net zero greenhouse gases (GHG) by 2050, ending the UK’s contribution to global warming within 30 years. This would replace the previous target of an 80% reduction by 2050 from a 1990 baseline;
- Scotland: a target of net-zero GHG economy by 2045, reflecting Scotland’s greater relative capacity to remove emissions than the UK as a whole;
- A net zero GHG target for 2050 would deliver on the commitment that the UK made by signing the Paris Agreement.

With regards to the UK and Scottish targets, the report clearly states, *“this is only possible if clear, stable and well-designed policies to reduce emissions further are introduced across the economy without delay. Current policy is insufficient for even the existing targets”.* The report also states;



“Scotland has proportionally greater potential for emissions removal than the UK overall and can credibly adopt a more ambitious target. It should aim for net zero greenhouse gas emissions by 2045. Interim targets should be set for Scottish emissions reductions (relatively to 1990) of 70% by 2030 and 90% by 2040”.

The current climate change emergency must therefore significantly inform the weight to be attributed to the climate change benefits that would result from the operation of the Proposed Development.

3.3.12 Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amends the Climate Change (Scotland) Act 2009 to make provision setting targets for the reduction of greenhouse gases emissions and to make provision about advice, plans and reports in relation to those targets, with the objective of Scotland contributing appropriately to the world’s efforts to deliver on the Paris Agreement.

The net-zero emissions target year is 2045 with the following interim targets and years:

- 2020 is at least 56% lower than the baseline;
- 2030 is at least 75% lower than the baseline; and
- 2040 is at least 90% lower than the baseline.

4 Planning Appraisal

This section considers the planning issues raised by the Proposed Development against the planning policy context outlined in Section 3. It utilises the list of impacts within the Council’s renewable energy policy (DP9) as an appropriate structure against which to analyse compliance with the Development Plan in the absence of a specific policy under which electrical grid infrastructure can be considered.

4.1 Compliance with the Local Development Plan

4.1.1 Development Policy 9: Renewable Energy

DP9 is the most appropriate policy to allow consideration of the Proposed Development and as such should be afforded the most weight in decision making, the following considers compliance with the three aspects of that policy:

- Safeguarding and enhancing the built and natural environment;
- No loss of, or permanent damage to prime agricultural land;
- Avoidance, or address any unacceptable significant adverse effects.

It also considers compliance with other policies within the Moray LDP where they are relevant to the Proposed Development.

4.1.1.1 Use of the Site for Energy Infrastructure Projects

The synchronous compensator would provide National Grid with the ability to balance the operation of the grid system without any emissions to air, and therefore is a clean, efficient and flexible enabler of increased volumes of renewable energy generation.

The Proposed Development has been deliberately sited in close proximity to suitable and available electrical infrastructure at Blackhillock Substation which would provide essential connection points.

Distances from nearby residential and commercial properties were considered within the early stages of site identification and design to preserve amenity. Potential sites were also reviewed with regards to their physical constraints such as flood risk, topography, ecological constraints and landscape and visual impact considerations.

As such, the identification of a site located within close proximity to the pre-existing energy generation and distribution infrastructure and outwith sensitive environments has minimised the impacts on biodiversity, geodiversity, landscape character and visual amenity.

The Proposed Development would be located on an area currently in agricultural use as arable land. The location has been driven by the necessity to cluster this type of development close to the existing substation. According to Scotland’s Soils interactive map the Site is located on land capable of average agricultural production. Crops could include barley, oats and grass. As the Site is not located on an area of prime agricultural land the Proposed Development is in full compliance with DP9.

The Proposed Development therefore, by enabling further increases in renewable energy generations receives support from Policy DP9 which aims to enable such development. The rural location, driven



by the need to be located adjacent the existing substation meets the requirements and is supported by Policy DP5.

4.1.1.2 Landscape and Visual Amenity

A landscape and visual appraisal has been carried out and is contained within the Environmental Report. The appraisal concludes that the local host landscape is considered to be of low sensitivity to the type of development proposed given the existing adjoining substation, as well as the electrical infrastructure within the surrounding area. The Proposed Development therefore complies with DP 9 by avoiding significant adverse landscape effects.

It also accords with Policy EP3 by reflecting the character of the landscape in which it is located. The Proposed Development is located within the Landscape Character Type (LCT) 288: Upland Farmland within the Scottish Natural Heritage (SNH) National Landscape Character Assessment. Characteristics typical of this LCT include broad, shallow valleys, small farmsteads often enclosed by isolated woodland pockets and limited visual diversity. However, large scale electrical infrastructure adjacent to the Site has influenced the landscape, with the SNH character assessment stating *“pylon lines are concentrated within this area, focusing centrally on Blackhillock substation (currently expanding) the number of which can be regular features in views”*. The siting of the Proposed Development, with its proposed screening, adjacent to the existing Blackhillock Substation and in close proximity to existing quarries ensures it remains compliant with Policy EP3.

4.1.1.3 Noise

A noise impact assessment has been completed and is contained within the Environmental Report. The noise assessment concludes that the Proposed Development would conform to the requirements of BS4142:2014 and as such would not result in unacceptable levels of noise. Therefore, the Proposed Development is in accordance with DP9 and EP14 of the LDP.

4.1.1.4 Air Quality

The Proposed Development will not result in emissions during the operational phase. During the construction phase of the Proposed Development emissions within the area will increase slightly due to construction vehicles, however given the small-scale and temporary nature, impacts would be low level and fully reversible. Therefore, the Proposed Development is in accordance with DP9 and EP14 of the LDP.

4.1.1.5 Electromagnetic Disturbance

There are two residential properties within 150 m of the Proposed Development. The adjacent Blackhillock Substation and its associated electrical infrastructure is of a large nature. Any electromagnetic fields being produced at this site are likely to be larger than those produced by the Proposed Development. Therefore, the Proposed Development is unlikely to result in electromagnetic disturbance at the identified receptors. The Proposed Development is in accordance with DP9.

4.1.1.6 Impact on Water Environment

A Geotechnical Desk Study has been undertaken and is summarised within the Environmental Report. The Site is located within a groundwater Drinking Protection Zone.

The Proposed Development would occupy an area of agricultural land that has undergone limited historical changes associated with the quarry works. The Proposed Development would generate no effluent emissions and the only contamination risk during its operations would be as a result of the potential for an oil leak from the transformers. To mitigate that the transformers would be located within reinforced concrete bunds with integrated oil interceptors.

Onsite drainage would be installed to collect surface water and drain into an existing drainage channel to the north east of the Site via a berm. A Drainage Layout Plan has been produced (ER Figure 8.1) showing the proposed method of drainage on the Site. During construction a temporary silt fence (ER Figure 8.2) would be installed. Final drainage arrangement would be agreed with SEPA and Scottish Water prior to commencement of development. Therefore, the Proposed Development is in accordance with DP9, EP12 and EP14 of the LDP.

4.1.1.7 Peat and Carbon Rich Soils

A Geotechnical Study was undertaken by TNEI for the Proposed Development. This Study identified that the superficial geology onsite comprise till. No peat or carbon rich soils are present onsite. The Proposed Development is therefore in accordance with DP9.

4.1.1.8 Woodland and Forestry

The Proposed Development would not result in the removal of high value habitats including woodland or forestry. Although no trees are required to be removed, additional planting would be incorporated into the Site boundary and therefore the Proposed Development is in accordance with DP9 and EP7.

4.1.1.9 Access, Traffic and Transport

An access traffic and transport appraisal has been undertaken, the findings of which are contained within the Environmental Report.

Access for the Proposed Development would be taken from the A96, and then via a newly constructed access track into the field the development will be located. Access would be for authorised personnel only.

As stated within the Access, Traffic and Transport appraisal within the Environmental Report, the Proposed Development would result in approximately 70 vehicle movements a day during the construction period. Given the scale of the Proposed Development, the temporary nature of the construction process and the ability to manage impacts through a traffic management plan, if necessary, this would not result in significant effects. During operations trip generation would be very low and limited to regular maintenance visits.

As such, the Proposed Development would not have a detrimental impact on the safe and satisfactory operation of the local, or wider, highway network and therefore the Proposed Development meets DP9 of the LDP.

4.1.1.10 Ecological Impacts

An Extended Phase 1 Habitat Survey was undertaken in July 2020 the findings of which are contained in the Environmental Report.

As stated within the Environmental Report, the Site does not fall within any national, regional or local designation of ecological or ornithological interest. From the Extended Phase 1 Habitat Survey the following protected species were noted as potentially being present onsite: Eurasian Badger, Red Squirrel, Barn Owl and Kestrel.

The Proposed Development would not result in the removal of high value habitats or in impacts on protected species providing the mitigation measures proposed within the Environmental Report are followed. Therefore, the Proposed Development meets the aims of DP9, EP1 and EP2.

4.1.1.11 Tourism and Recreation

The Proposed Development is located within an area dominated by large industrial infrastructure i.e. Blackhillock Substation and associated electrical infrastructure. Additional planting would be incorporated into the Site boundary on all sides screening views of the Site from its surrounding area. As such the Proposed Development would not impact on any tourism or recreational receptors. The Proposed Development is therefore in accordance with DP9.

4.1.1.12 Contribution to Renewable Energy Targets

Synchronous compensators create stability within the grid network enabling more renewable energy generation projects to connect onto the grid. Increasing the capacity of the grid network for renewable energy projects will significantly contribute towards the transition to a low carbon economy. The purpose of the Proposed Development is to provide the grid network with synchronous inertia to enable increasing sources of renewable energy to be introduced to the grid network. By improving the synchronous inertia of the National Grid network the proposed development would allow the grid network to supply/absorb reactive power more rapidly. This provides more opportunities for renewable energy generation developments to connect onto the National Grid, significantly improving the economic outlook of the Hunterston area. The Proposed Development is therefore in accordance with DP9.

The Proposed Development would contribute significantly to meeting the requirements of the renewable energy directive (2009/28/EC) as it would provide the grid network with synchronous inertia. This would enable the National Grid Network the flexibility to import and export energy rapidly. With increasing sources of renewable energy being introduced to the grid in an effort to tackle climate change the requirement for synchronous compensators is growing. As such, the Proposed Development supports the aims of Policy DP9.

4.1.1.13 Greenhouse Gas Emissions

The text above sets out how the Proposed Development would enable greater volumes of renewable generation and therefore reduce greenhouse gas emissions and assist in addressing the climate emergency. The Proposed Development is therefore in accordance with DP9 of the LDP.

4.1.1.14 Economic Impacts

The Proposed Development would result in contract opportunities for local and regional contractors for construction activities and throughout the supply chain. The Proposed Development has the potential to generate a range of economic opportunities for local businesses, most notably employment opportunities. The likely social and economic effects can be divided into:



- Direct effects – employment opportunities during construction and decommissioning of the Proposed Development;
- Indirect effects – employment opportunities created down the supply chain by those companies providing services during construction and decommissioning; and
- Induced effects – employment created by the additional spend of wages in the local economy.

The Proposed Development would support opportunities for energy storage/ generation to be located within the local area by stabilising and supporting the National Grid Network. Further afield, enabling the grid network to cope with future renewable energy developments would create wider economic benefits for Scotland and the UK. Therefore, the Proposed Development is in accordance with DP9.

4.1.1.15 Cultural Heritage

A cultural heritage appraisal has been undertaken, the findings of which are contained within the Environmental Report.

Proximity, orientation, features and availability of views were assessed for each heritage asset and it was determined that none of the identified built heritage assets have settings that would be affected by the Proposed Development, or would experience any detrimental intervisibility. As such it is predicted that there would be no unacceptable impacts on the heritage value or significance of these assets as a consequence of the Proposed Development. The Proposed Development therefore complies with EP8, EP9, EP10 and EP11 of the LDP.

5 Planning Balance

The statutory Development Plan is the start point for consideration. The Proposed Development demonstrates consistency with the aims and visions of the adopted Moray Local Development Plan. Considering the Local Development Plan in its entirety, taking account of its aims and goals, most relevant policies and detailed environmental policies, the Proposed Development is in compliance with all of the above noted policies.

At the heart of this proposal is energy security and the contribution it makes to the move to a low carbon economy. This proposal goes a considerable way towards providing energy security. In order to tackle the climate change emergency, the Scottish Government aims to encourage the deployment of low carbon energy/technology as part of a sustainable solution. The proposed synchronous compensator is part of the transition, allowing increasing volumes of intermittent renewable energy generation to come online as it provides the electricity network with stability, reacting when extra power is needed and providing more control over voltage.

As a result, there are numerous material considerations that lend further support to the case to provide planning permission for the Proposed Development. Not least of these are the Scottish Government's Energy Policies, Strategy and legislation that identify the need for development such as this to allow increased penetration of renewable generation on the grid network, enable the electrification of the energy systems and therefore help address the Climate Emergency.

Overall, therefore, in the planning balance, weighing the lack of harm to the environment and local amenity as a consequence of this proposed development, against the significant benefits in terms of supporting the growth in renewable energy by providing flexible generation, it is considered that the benefits outweigh the harm and the Applicant respectfully requests that permission be granted.