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EIA Screening Opinion for Proposed Solar Farm at Lee Farm, Rushton Spencer, Macclesfield, SK11 0RS.

Introduction

We write on behalf of Global Renewable Construction Limited and the owners of Lee Farm, Rushton Spencer, Macclesfield, SK11 0RS to formally request a Screening Opinion to determine the requirement for an Environmental Impact Assessment (EIA) to accompany a planning application for a proposed solar farm at of Lee Farm, Rushton Spencer, Macclesfield, SK11 0RS. This request is made under Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011 (EIA Regulations).

As required under Regulation 5 of the EIA Regulations, we have provided below a brief description of the proposed project and its surrounding area, and a summary of the possible effects of the project on the environment. A site location plan identifying the site is also enclosed, along with a proposed layout for the development.

EIA Regulations

Under the EIA Regulations an environmental assessment is automatically required for 'Schedule 1' developments. In relation to electricity and energy industry generation a Schedule 1 development is identified as:

- Thermal power stations and other combustion installations with a heat output of 300 megawatts or more; and
- Nuclear power stations and other nuclear reactors.

The proposed development is therefore not a Schedule 1 development.

The EIA Regulations also require an environmental assessment for a Schedule 2 development likely to have significant effects on the environment by virtue its nature, size and location. A project is classified as a Schedule 2 development if it falls within a category of development listed in Schedule 2 and meets one of the relevant criteria, exceeds one of the relevant thresholds, or is located in a sensitive area. In relation to the energy industry, a Schedule 2 development is identified as Industrial installations for the production of electricity, steam and hot water, with a development area that exceeds 0.5 hectare. The proposed development is considered to fall under the definition of Schedule 2 development. It is therefore appropriate to submit this request for Screening Opinion to **Staffordshire Moorland Distric Council** (the Local Authority) to determine whether there are significant effects likely to arise from the proposed development.

Site Location

The site of the proposed solar farm occupies part of a field within the **Lee Farm** property; the location of the site is shown in the attached location plan. The proposed Project would occupy **10.27 hectares (25.37 acres)** of an irregular shaped arable field under agricultural use.

Outline Project Description

It is intended to submit a planning application for the development of a Photovoltaic (PV) solar farm capable of generating approximately 5 Megawatts peak (MWp) of electricity. This would be sufficient to provide the electricity needs of 1,300 average UK households and save in the region of 2,300 tonnes of carbon dioxide per year that would otherwise be generated through the use of traditional fossil fuels.

The proposed Project development involves the installation of PV panels arranged in rows covering a total site area of 10.27 hectares (25.37 acres). Panels will be mounted on a steel framework supporting structure which will be driven directly into the ground, with no need for any concrete foundations. The structure will follow the terrain and as such will not rise above 2.3m above ground level. The solar panels will be inclined to 20 degrees from the horizontal and orientated due south. Each individual photovoltaic panel is approximately 1,000 mm x 1,650 mm and of a glass construction set in an outer metal framework. The PV panels are connected by cables, running through conduits along the rows of panels, and junction boxes. Figure 1 shows a typical arrangement for PV panels within a solar farm.

In addition to the PV panels a solar farm comprises of the following:

- Inverters - to convert the direct current (DC) electricity generated by the PV panels, into alternating current (AC) for the grid. Inverter cabinets are typically in the order of 10m long, 2.5m wide and 3m high. The proposed Project will require 4 inverters.
- Transformers are required to connect the solar farm to the high voltage grid, which would sit alongside or inside the inverter cabinets.
- Transformers are required to connect the solar farm to the high voltage grid, which would sit alongside or inside the inverter cabinets.
- A security system is required to prevent unauthorised access into the solar farm, which is an energy generation system, and to protect the solar farm. This will consist of an approximately 2m high deer fence installed within the sites demise and pole mounted security cameras installed around the fence perimeter. The security cameras will employ infra-red technology and no site lighting will be required.
- The Distribution Network Operator will also install a switchgear cabinet, which connects the underground grid connection cable of the solar farm to the distribution network. The size of this cabin will be determined by the DNO requirements, but it is likely to be a GRP enclosure no more than 4m long, 3m wide and 2.5m high.

The proposed project will export electricity to the national grid via connection to the existing High Voltage wooden pole line which runs adjacent to and along the eastern boundary of the site.

In order to avoid shading from the panels on one another, the distance between rows of panels will be 6.5m; which will create wide avenues left open between the panels. The total site area is 102,700 m², of which 30,000 m² will be covered with panels, leaving 68% (72,700 m²) as open green space, which is significantly greater than standard good environmental practice of less than 50% cover. Furthermore, the proposed development would not have significant foundation or infrastructure requirements and therefore would have a minimal impact on the existing ground conditions. The unoccupied ground between rows of panels and under the panels will be seeded to produce a wildflower meadow and grassland area. Following the completion of a proposed development, farming activities such as the grazing of sheep, pheasants, beehives etc., can continue to co-exist with the erected solar arrays.

Once constructed, access to the solar farm will typically generate 10 visits per year by technicians for maintenance works in 4x4s or transit vans. Maintenance will include washing the panels with water approximately twice a year and mowing the grass 4-6 times per year (if sheep are not used). There will be no on site office or permanent staffing of the site.

Figure 1: Typical PV Solar Panel Arrangement

Source: GRC Limited

Effects on the Environment

Once constructed, the solar farm development will have very limited impacts on the environment. The panels are passive in nature, do not result in any emissions, will not generate any waste during operation (aside from any required replacement of components) and require very limited onsite activity, consisting of quarterly maintenance work. The solar farm will not result in any hazardous impacts, and it does not involve any unusually complex technologies. The risk of any accidents is very low, and restricted to construction and maintenance activities, which will be covered by health and safety plans. Solar PV is one of the least technically complex and lowest impact energy generation methods available.

As the panels do not form a continuous hard surface, vegetation will continue to grow under and between the panels and there will be very little change to site run-off. Therefore there will be no impact directly on or loss of soils; in fact the use of the site for a solar farm will allow soils to rest and regenerate as fallow land.

The most significant impact associated with solar farms is their potential to impact on the local landscape and the visible changes to the site. Part of the reason why this site was selected was due to the limited visual impact the proposed project would have on the local landscape. The immediate surrounding area is characterised by predominantly agricultural uses and is rural.

It is considered that the visual impact of low lying solar equipment will not result in a material change to the character of the area, particularly when considering the surrounding hedges and tree-scape, adjacent woodland and topography, which affords significant screening of the site. The project may be partially visible from certain specific locations, but as part of the development of the Project additional screening through planting can be undertaken, following the findings from a full Landscape and Visual Impact Assessment (LVIA) that would be carried out as part of the Planning Application. It is therefore considered that any potential visual impacts beyond the immediate site would be very low.

The land around and between the arrays can continue to be used for grazing allowing for agricultural diversification, and thus overall impact on land-use is considered to be minimal.

There are no moving mechanical parts associated with the panels and no significant noise generating equipment or machinery, minimising the potential for noise generation from the development. Consequently no noise impact on even the closest local residents is anticipated.

As the panels do not form a continuous hard surface, vegetation will continue to grow under and between the panels and there will be very little change to site run-off. Therefore the design of the installation is such that it does not decrease the capacity of the land to absorb rainfall and will not increase run-off to other areas.

Often there is a perception that solar panels have the potential to create glint and glare impacts; however, photovoltaic panels are designed to absorb sunlight (rather than reflect it), minimising potential impacts of glint and glare. Furthermore, due to the orientation of the panels to the south, light reflection would only occur to the south of the site; the site is not visible from the south.

Adequate vehicular access to the sites can be obtained from existing roads and field accesses with few modifications, if any. Once the solar array is operating, it is anticipated there will only be limited visits required to the site for routine maintenance. Thus any impact arising from increased traffic will be negligible.

The site will be developed and used for solar energy production for a period of 25 years. The site will then be decommissioned in its 26th year, the infrastructure removed and the land returned back to agricultural use.

The Project area will be seeded with wildflowers, and other appropriate native vegetation, to enhance the local biodiversity.

EIA Screening

The Screening process should consider the development proposals against the criteria and thresholds which are included within the EIA Regulations and accompanying guidelines in Circular 02/99, in determining whether or not an EIA is required to accompany an application. Schedule 3 of the EIA Regulations provides selection criteria for Screening Schedule 2 development, which includes the following three categories to consider:

- the characteristics of the development (e.g. its size, use of natural resources, quantities of pollution and waste generated)
- the environmental sensitivity of the location
- the characteristics of the potential impacts (e.g. its magnitude and duration).

We consider that the proposed solar farm does not fall within the above selection criteria, based on the following reasoning:

Characteristics of the development	Although the proposed solar farm occupies **10.27** hectares of land, the development will be close to the ground and coupled with significant existing screening, will have very limited local impact. Throughout the operational life of the project there will be no resources consumed, no pollution emitted or wastes generated.
Environmental sensitivity of the location	There are no environmentally sensitive sites close to or within the proposed site area and therefore no impact on sensitive sites will occur due to the development of the proposed project.
Characteristics of the potential impacts	The magnitude and complexity of any impacts are expected to be limited, confined to the local area and are predictable. The duration and frequency of the potential impacts are not significant and (with the removal of the panels after 25 years) are reversible.

In addition to this, for Schedule 2 developments, paragraph 33 of Circular 02/99 states that generally EIA will be required in three main cases:

- For major developments which are of more than local importance – the proposed solar farm is not considered to be of more than local importance.
- For developments which are proposed for particularly environmentally sensitive or vulnerable locations – the development is not sited in a particularly environmentally sensitive or vulnerable location.
- For developments with unusually complex and potentially hazardous environmental effects – the proposed solar farm is not considered to have any complex or hazardous environmental effects.

It is therefore considered that the proposed development does not have significant effects on the environment when considered against these factors and as such, it is not an EIA development and does not therefore require an Environmental Statement to be prepared.

Summary

Based on the criteria set out in the EIA Regulations and Circular 02/99, we consider that the proposed development does not require the preparation and submission of an Environmental Impact Assessment for the following reasons:

- Due to the nature and scale of the proposed solar farm any potential impact is minimal and only limited to the immediate area surrounding the project and therefore of no more than local importance.
- Due to the passive operational nature of the solar farm it is considered that the development will not constitute a significant negative effect upon the environment.
- The proposals are not unusually complex and do not pose potentially hazardous environmental effects.

Given the benign nature of the proposals coupled with the generally limited environmental value of the current site, it is considered that whilst there will be some effects upon the environment as a consequence of the scheme, none of these are considered to constitute 'significant effects' upon the environment, as set out in central

Government guidance. Accordingly, it is considered that the proposals do not constitute EIA development and would not require an Environmental Statement to be submitted with a planning application for the scheme.

The site will be developed and used for solar energy production for a period of 25 years. The site will then be decommissioned in its 26th year, the infrastructure removed and the land returned back to agricultural use. Allowing the field to site fallow for this period of time will fully restore the soil structure and fertility for future agricultural use.

In acknowledgement of the potential for the proposed development to create some effects on the environment, a number of supporting studies to assess the effects of development will be submitted as an accompaniment to any planning application. We propose that these studies are prepared and submitted to ensure that appropriate regard is given to environmental requirements throughout the development and in consultation with the Local Authority; these studies could include:

- Transport Statement
- Ecological Survey and Assessment
- Biodiversity Planting Action Plan
- Landscape and Visual Impact Assessment
- Flood Risk Assessment
- Heritage Assessment (desk based).

Solar farms such as this are recognised and acknowledged as having low levels of impact on their surroundings and settings, whilst supporting the requirements for renewable energy production and sustainable development. Solar farms are at the leading edge of zero emission energy generation, and will play an increasingly important role in moving the UK towards a low carbon economy.

Furthermore, the proposed Project will be designed so as to have a net benefit on the local ecology through selective planting for biodiversity.

We trust that we have provided you with sufficient information for you to make a Screening Opinion for the proposed solar farm. Should you have any queries or would like to arrange a further meeting to discuss our proposals, please do not hesitate to contact me.

We look forward to receiving the Council's Screening Opinion within the necessary timeframe specified by the EIA Regulations.

Kind Regards

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