Springwell Solar Farm

Environmental Statement
Appendix 3.1 – Project Parameters

Volume 3

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

EN010149/APP/6.3
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Springwell Energyfarm Ltd

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1. Project Parameters

1.1. Introduction

1.1.1.1. This Project Parameters document has been prepared to accompany the Development Consent Order (DCO) Application for Springwell Solar Farm (the Proposed Development). It provides the parameters for the detailed design of the Proposed Development and is secured via a requirement in the **Draft Development Consent Order (DCO) [EN010149/APP/3.1]**. When the detailed design for the Proposed Development is submitted for approval to the relevant planning authority (if DCO consent is given), those details must be in accordance with the design parameters set out within this document.

1.1.1.2. Securing the detailed design post-consent is necessary to achieve technological and design flexibility for the proposed development because technology is rapidly evolving, such as the output of the individual Solar PV modules and the capacity of the inverters and transformers.

1.1.1.3. Springwell Solar Farm seeks to allow provisions in the DCO for technological innovation and improvements that may be realised during the procurement and construction phase to ensure that the project will prioritise sustainable techniques and technologies in construction and operation and positively contribute to delivering the UK to net zero by 2050.

1.1.1.4. To facilitate this flexibility, the approach to the ES has been to adopt the 'Rochdale Envelope' approach, whereby the maximum parameters and realistic 'worst case' have been assessed. The envelope is controlled by the **Works Plans [EN010149/APP/2.3]** and the parameters set out in **Table 1** below. In addition to the parameters set out in this table, Design Guidance has also been established for the Springwell Solar Farm, as set out in the **Design Approach Document (DAD) [EN010149/APP/7.3]**, and a Green Infrastructure Strategy has been developed, as set out in the **Outline Landscape and Ecology Management Plan [EN010149/APP/7.9].** Both are secured through DCO Requirements.

1.1.2. Assuming the DCO is granted, the Project Parameters will be secured with respect to the detailed design for the Proposed Development as follows, in order to provide confidence to the relevant planning authority that the environmental effects would be the same or no worse than those assessed and reported in the ES:

1.1.2.1. **Requirement 5 (detailed design approval):** The Project Parameters will be secured by Requirement 5 of the **Draft DCO [EN010149/APP/3.1]** which requires the detailed design proposals to be developed in accordance with the Project Parameters (as well as the **Design Commitments [EN010149/APP/7.4]**). The requirement secures the approval of the detailed design for Work Nos. 1-6 and 9, being the Solar PV generating station (Work No. 1), Springwell Substation Compound (Work No. 2), Satellite Collector Compounds (Work No. 3), Battery Energy Storage System (Work No. 4), 400kV grid connection into National Grid's Navenby Substation (Work No. 5), cabling up to 132 kV (Work No. 6) and works related to green infrastructure (Work No. 9)). The details will be submitted for approval to the relevant local planning authority (LPA), North Kesteven District Council, and must be consistent with any detailed approved under Requirements

7 (battery safety management), 8 (landscape and ecology management plan), 9 (fencing and other means of enclosure), 10 (surface and foul water drainage), 11 (archaeology) and 15 (operational noise).

1.1.2.2. **Requirement 9 (fencing and other means of enclosure):** The Project Parameters relevant to permanent fencing are secured by Requirement 9 of the **Draft DCO [EN010149/APP/3.1]** which requires the approval of all permanent fences, walls or other means of enclosure by North Kesteven District Council. The details must be substantially in accordance with relevant Project Parameters.

1.1.3. The relevant planning authority will assess the above details having regard to the parameters set out in the column headed “Parameter Description” in this document.

1.1.4. Management Plans

1.1.4.1. The construction, operation and decommissioning activities are subject to the controls included within the following documents, which are secured by requirements of the **Draft DCO [EN010149/APP/3.1]**:

- Outline Construction Environmental Management Plan **[EN010149/APP/7.7]**
- Outline Operational Environmental Management Plan **[EN010149/APP/7.10]**
- Outline Decommissioning Environmental Management Plan (inc. restoration) **[EN010149/APP/7.13]**
- Outline Landscape and Ecology Management Plan **[EN010149/APP/7.9]**
- Outline Battery Safety Management Plan **[EN010149/APP/7.14]**
- Outline Construction Traffic Management Plan **[EN010149/APP/7.8]**
- Outline Soil Management Plan **[EN010149/APP/7.11]**
- Outline PRoW and Permissive Paths Management Plan **[EN010149/APP/7.12]**
- Outline Drainage Strategy **[EN010149/APP/7.16]**

1.1.5. Project Principles and Design Commitments

1.1.5.1. The Project Principles are based on understanding the Proposed Development’s local context, the people it will affect, and the potential benefits and outcomes it can deliver. They have been used to drive design related decision making throughout the lifecycle of the project and are continually tested and improved in response to further baseline survey work, design evolution, environmental assessment and stakeholder feedback to deliver the best outcomes for the project.

1.1.5.2. Project Principles are not secured under the DCO and design outcomes will be secured via Project Parameters, Design Commitments and other control documents (such as the **oLEMP [EN010149/APP/7.9]**). This includes embedded mitigation identified through the EIA process — for example, there will be a minimum 15m offset from the Proposed Development to all existing woodlands. The DCO Application contains several control documents set out in the **Guide to the Application [EN010149/APP/1.1]**, which will be secured through the **Draft DCO [EN010149/APP/3.1]**.

1.1.5.3. These Project Principles have been a set of decision-making reference points that have transcended and informed the design process up to the point of DCO application. Moving forward, to inform the design process for post-DCO consent, the Applicant has developed **Design Commitments [EN010149/APP/7.4]**, which will support the practical application of the Project Principles within the spatial extent parameters set by the **Work Plans [EN010149/APP/2.3];** the quantitative parameters set out in this document; and the Green Infrastructure proposals set out in the **oLEMP [EN010149/APP/7.9]**, through the setting of specific design requirements for the detailed design stage. The **Design Commitments [EN010149/APP/7.4]** are in a standalone document**.**

Table 1 Project Development Parameters

Element of Proposed Development	Parameter Type	Parameter Description	Secured by
Work No. 1— a ground mounted solar photovoltaic generating station with a gross electrical output capacity of over 50 megawatts, including— a. Solar PV modules fitted to mounting structures; and b. Balance of Solar System (BoSS) plant.			
Solar PV modules and mounting structures	Scale	The minimum spacing gap between consecutive rows of Solar PV modules will 2.5m.	Parameter
	Scale	The maximum height of highest part of the Solar PV modules will be 3.0m above ground level (AGL) (existing levels).	Parameter
	Scale	The maximum height of highest part of the Solar PV modules will be 3.5m above ground level (AGL) (existing levels) within Flood Zone. Located in the following fields: - By03 - By10 - By28 - Lf04 - Lf11	Parameter
	Scale	The minimum height of the lowest part of the Solar PV panels will be 0.8m AGL (existing levels)	Parameter
	Scale	The minimum pitch between consecutive rows of Solar PV	Parameter

		modules would be sloped towards the south at a fixed angle of 10 to 30 degrees from horizontal.	
	Scale	The maximum depth of the mounting structure piles will be 3.0m.	Parameter
Inverter and Transformer Station (ITS)	Scale	The ITS will not exceed 3m in height AGL (existing levels)	Parameter
	Scale & Location	There will be up to 8 storage containers for every 20MW of installed DC Capacity.	Parameter
String Inverter	Location	The string inverters are only to be location in the following fields: Springwell West • Tb5 • W1 Springwell Central • Bk05 • Bk06 • Bk08 • Bk09 • Bk10 • Bk11 • Bk15 Springwell East • By03 • By04 • By10 • By11 • By22 • By23 • By24 • By28 • C6 • C8 • C9 • Lf04 • Lf05 • Lf07 • Lf08 • Lf11 • Md01	Parameter
Central inverter	Scale	The central inverter cabinet will not exceed 2.3m in height AGL (existing levels)	Parameter

Transformers	Scale	Transformers will have a maximum height of 2.5m AGL (existing levels).	Parameter
Switchgear	Scale	Switchgear will have a maximum height of 2.5m AGL (existing levels).	Parameter
Independent Outdoor Equipment	Scale	Independent Outdoor Equipment will have a maximum height of 3.5m AGL (existing levels).	Parameter
	Scale	Independent Outdoor Equipment will have a maximum footprint of 80m^2	Parameter
Fencing	Scale	Height 2.5m Timber post and wire mesh 'deer-proof fencing'	Parameter
CCTV	Scale	Height 1.5m	Parameter
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 2A and 2B— works in connection with a Springwell Substation, Main Collector Compound and Ancillary Building, including—

a. substation, transformers, switch room buildings and ancillary equipment, including harmonic filters and reactive power units;
b. Main Collector Compound;
c. Work No. 2B up to seven transformers that form part of the substation for Work No. 2A
d. control building housing offices, storage, welfare facilities, parking areas and access;
c. workshop, store and ancillary structures; and
d. monitoring and control systems for this Work No. 2 and Work No. 1 housed within the control building in Work No. 2 or located separately in their own containers or control rooms.

Springwell Substation	Location	The Springwell Substation will be located in field Tb2.	Works Plans
	Scale	The footprint of the entire Springwell Substation will be no greater than 62,500m^2.	Parameter
	Scale	The Springwell Substation and electrical infrastructure maximum height will be 12m FGL at 50m AOD.	Parameter

	Scale	The maximum number of transformers seven and each up to 200m^2	Parameter
	Scale and Location	Fixed location for all transformers located within Work No. 2B	Works Plans
	Scale	The maximum height of the transformers is 12m FGL at 50m AOD.	Parameter
Main Collector Compound	Scale	The maximum height of the Main Collector Compound will be 6m FGL at 50m AOD.	Parameter
	Scale	Maximum of 8 Switchroom units	Parameter
	Scale	The maximum footprint of the Main Collector Compound will be 21,600m^2.	Parameter
Ancillary Buildings	Scale	The maximum footprint of main operational building 2,400m^2 or two buildings each 1,200m^2	Parameter
Fencing	Scale	Mesh fencing would comprise a mesh fence up to 2.75m in height with a pulse monitoring security fence up to 3.4m height inside the mesh fence.	Parameter
CCTV	Scale	Height 5m AGL	Parameter
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 3 – Works in connection with satellite collector compounds, including-

a. switchgear

b. transformers; and

c. control buildings housing monitoring equipment, storage, securing and welfare facilities.

Satellite Collector Compounds	Location	One is within each area: Springwell East (By22), Springwell Central (Bk04), and Springwell West (Bcd102).	Works Plans
	Scale	Each will have a maximum footprint of 1,500m^2.	Parameter

	Scale	Maximum height of 6m AGL (existing levels).	Parameter
Fencing	Scale	Height 2.75m	Parameter
CCTV	Scale	Height 5m AGL	Parameter
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 4— works in connection with an energy storage facility comprising a battery energy storage system (BESS) compound, including–

a. BESS container units; and

b. Ancillary building and associated infrastructure.

BESS Compound	Scale	The BESS Compound will have a maximum footprint of 125,000m^2 and maximum height 6m.	Parameter
	Scale	The BESS containers and transformer units will have a maximum height of 3.5m.	Parameter
Ancillary buildings and infrastructure	Scale	The main operations buildings will have a maximum footprint of 1,400m^2 and maximum height 6m	Parameter
Fencing	Scale	Mesh fencing would comprise a mesh fence up to 2.75m in height with a pulse monitoring security fence up to 3.4m height inside the mesh fence.	Parameter
CCTV	Scale	Height 5m AGL	Parameter
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 5 – works to lay high voltage electrical cables and access for the electrical cables, including—

(a) works to lay electrical cables including 400 kilovolt cables connecting Work No. 2 into the National Grid Navenby Substation; and

(b) laying down of internal access tracks, ramps, means of access, footways, including the laying and construction of drainage infrastructure, signage and information boards.

Grid Connection Cables	Scale	The 400kV cables will be underground in trenches up to 2m in width and up to 1.5m deep. A minimum separation distance of 500mm between cables.	Parameter
	Location	The cable route would extend up to 2.8km north from Gorse Hill Lane.	Works Plans
Work No. 6— works including works to lay electrical cables up to 132 kilovolt connecting Work Nos 1, 2, 3, 4 and 5.			
Electrical Cables	Scale	Maximum width 1.5m for single cable circuit up to 19m for multiple cable circuits.	Parameter
	Scale	Cable spacing within trenches 0.5m – 1.0m.	Parameter
	Scale	Maximum depth 1.5m, except for utility, road or ditch crossings, which may require deeper trenches.	Parameter
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 7A and 7B — temporary Construction and Decommissioning Compound including—

a. Primary Construction Compound (Work No. 7a) and Secondary Construction Compound (Work No. 7b) and decommissioning laydown area in connection with Work Nos. 1-6, comprising—

i. areas of hardstanding;
ii. car parking;
iii. site and welfare offices, canteens and workshops;
iv. area to store materials and equipment;
v. storage and waste skips;
vi. area for download and turning;
vii. security infrastructure, including cameras, perimeter fencing and lighting;
viii. site drainage and waste management infrastructure (including sewerage); and
ix. electricity, water, waste water and telecommunications connections.

Temporary Construction Compound(s)	Scale	Primary Construction Compound (Work No. 7A) located within fields Tb2, Bcd128, and C8.	Works Plans
	Scale	Each Primary Construction Compound will have a maximum footprint of 25,000m^2.	Outline Construction Environment

			Management Plan (oCEMP)
	Scale	Secondary Construction Compound (Work No. 7b) located within fields Tb3, Bcd139, Bcd093, Bk04, Lf03, and By22.	Works Plans
	Scale	Each Secondary Construction Compound will have a maximum footprint of 1,250m^2.	Outline Construction Environment Management Plan (oCEMP)
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 8— works to facilitate access to Work Nos. 1 to 7, including–

a. creation of accesses from the public highway;
b. creation of visibility splays;
c. works to alter the layout of any street or highway;
d. works to widen and surface the streets; and
e. making and maintaining passing places.

Access	Scale	There will be 3 primary points of access and up to 11 secondary points of access.	Streets, Rights of Way and Access Plans
	Scale	Each access will have a gate 18m from the edge of the public highway.	Streets, Rights of Way and Access Plans
	Scale	Up to 2 temporary consultation passing bays along Temple Road	Streets, Rights of Way and Access Plans
Internal Access track	Scale	Maximum width 6m	Parameter

Work No. 9— works to create, enhance and maintain green infrastructure and mitigation, including-

- landscape and biodiversity mitigation and enhancement areas;
- habitat creation and management, including earthworks, landscaping, means of enclosure, and the laying and construction of drainage infrastructure;
- laying down of permissive paths, signage and information boards;
- improvements to existing and laying down of new public rights of way, signage and information boards;
- earth bund;

	• screening and • community growing area.		
Green Infrastructure	Location	Mitigation and enhancement areas	Outline Landscape and Ecology Management Plan
	Location	Permissive paths	Streets, Rights of Way and Access Plans
	Location	Earth bund	Outline Landscape and Ecology Management Plan
Internal Access track	Scale	Maximum width 6m	Parameter

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