

Rosefield Solar Farm

Grid Connection Statement

EN010158/APP/7.1
September 2025
Rosefield Energyfarm Limited

APFP Regulation 5(2)(p)
Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009

Executive Summary

The Grid Connection Statement for the Proposed Development outlines the project, which includes the construction, operation, and decommissioning of a solar photovoltaic and energy storage facility exceeding 50 megawatts (MW). This facility will be located within designated Order Limits and is subject to a DCO application.

The Applicant has a grid connection agreement with NESO to import and export 500MW (AC) of clean power, which has been requested to be reduced to 335MW (AC). The Proposed Development will connect to the National Electricity Transmission System via a Point of Connection at the nearby East Claydon 400kV Substation. A new onsite substation, the Rosefield Substation, will be constructed.

As a Nationally Significant Infrastructure Project, the Proposed Development requires a DCO from the Secretary of State for Energy Security and Net Zero.

The Applicant will design and construct the Rosefield Substation and the necessary cabling to connect to the National Grid East Claydon Substation. The Applicant acknowledges that NGET will replace the East Claydon Substation to meet new connection commitments, seeking permission through a TCPA 1990 application to Buckinghamshire Council.

The Rosefield Substation and associated works are integral to the Proposed Development for which development consent is sought.

Table of Contents

Executive Summary	1
Table of Contents	2
1. Introduction	3
1.1. Introduction	3
1.2. The Order Limits	3
1.3. The Proposed Development	3
1.4. Grid Connection Statement Overview	3
1.5. Purpose and Structure of this Statement	5
2. Grid Connection Agreement	7
3. Elements of Grid Connection	8
3.1. Introduction	8
3.2. Rosefield Substation.....	8
3.3. Grid Connection Cabling Corridor	9
3.4. National Grid East Claydon Substation	9
4. Responsibilities for Designing and Building the Grid Connection ..	11
4.1. Responsibilities of the Applicant	11
4.2. Responsibilities of National Grid Electricity Transmission	11
5. Acquisition of Land Rights	13
5.1. Overview	13
5.2. Solar PV Site and BESS Compound	13
5.3. Grid Connection Cabling Corridor	13
6. Consent for the Grid Connection Works	14
7. Conclusion	15

1. Introduction

1.1. Introduction

- 1.1.1. This Grid Connection Statement has been prepared on behalf of Rosefield Energyfarm Limited ('the Applicant') to describe the grid connection in relation to the Development Consent Order (DCO) application for the construction, operation (including maintenance), and decommissioning of Rosefield Solar Farm (hereafter referred to as the 'Proposed Development').

1.2. The Order Limits

- 1.2.1. The extent of the Order Limits are shown in **Location, Order Limits and Grid Coordinate Plans [EN010158/APP/2.1]** and the Proposed Development is described in full in **ES Volume 1, Chapter 3: Proposed Development Description [EN010158/APP/6.1]** and shown spatially on the **Works Plans [EN010158/APP/2.3]**.

1.3. The Proposed Development

- 1.3.1. The Proposed Development comprises the construction, operation (including maintenance), and decommissioning of solar photovoltaic ('PV') development and energy storage, together with associated infrastructure and an underground cable connection to the National Grid East Claydon Substation.
- 1.3.2. The Proposed Development would include a generating station with a total exporting capacity exceeding 50 megawatts ('MW').
- 1.3.3. The location of the Proposed Development is shown on **ES Volume 3, Figure 1.1: Location Plan [EN010158/APP/6.3]**. The Proposed Development would be located within the Order Limits (the land shown on the **Works Plans [EN010158/APP/2.3]** within which the Proposed Development can be carried out). The Order Limits plan is provided as **ES Volume 3, Figure 1.2: Order Limits [EN010158/APP/6.3]**. Land within the Order Limits is known as the 'Site'.

1.4. Grid Connection Statement Overview

- 1.4.1. The Applicant currently has a grid connection agreement with NESO to import 500MW (AC) and export 500MW (AC) of clean power to the National Electricity Transmission System (NETS). The Applicant has recently requested a reduction to these capacities and is seeking to decrease the import to 335MW (AC) and the export to 335MW (AC). It is expected that the grid connection agreement will be updated to reflect this by Q1 2026.
- 1.4.2. The Proposed Development will be connected to the NETS via a Point of Connection(s) ('PoC') at East Claydon 400kV Substation ('National Grid East Claydon Substation'), which is in close proximity to the Proposed Development.

- 1.4.3. As part of the Proposed Development, a new single substation (400/33kV) will also be located onsite (the 'Rosefield Substation'), close to the National Grid East Claydon Substation.
- 1.4.4. The Proposed Development comprises the construction, operation (including maintenance), and decommissioning of a ground-mounted Solar PV generating station electricity generating facility and Battery Energy Storage System (BESS) with a total capacity exceeding 50MW and an export connection to the National Grid and will require an order granting development consent under the Planning Act 2008.
- 1.4.5. This Statement forms part of the DCO Application for the Proposed Development submitted by the Applicant to the Planning Inspectorate (PINS). The decision on whether to grant a DCO will be made by the Secretary of State for Energy Security and Net Zero, hereafter referred to as the 'Secretary of State', pursuant to the Planning Act 2008.
- 1.4.6. The design of the Proposed Development has evolved throughout the environmental assessment process to avoid or minimise environmental effects and in response to consultation and engagement feedback, where appropriate. The location of the Proposed Development is shown in **ES Volume 3, Figure 1.1: Location Plan [EN010158/APP/6.2]** and described in **ES Volume 1, Chapter 2: Location of the Proposed Development [EN010158/APP/6.1]**, with the consideration of alternatives and the evolution of the design of the Proposed Development summarised in **ES Volume 1, Chapter 4: Reasonable Alternatives Considered [EN010158/APP/6.1]**. The extent of the Order Limits is shown on the **Location, Order Limits and Grid Coordinate Plans [EN010158/APP/2.1]**.
- 1.4.7. The area subject to the DCO Application where the Proposed Development will be carried out is shown in the Order Limits. The principal components of the Proposed Development include: ,
- Work No. 1: Ground Mounted Solar PV Generating Station, including:
 - Work No. 1A: Ground-mounted Solar PV Generating Station 3.5m; and
 - Work No. 1B: Ground-mounted Solar PV Generating Station 4.5m
 - The generating stations will include Solar PV modules and mounting structures and a Balance of Solar System (BoSS), which comprises inverters, transformers, and switchgear.
 - Work No. 2: Rosefield Substation Compound, which will include substation, switching and control equipment, office/control/welfare/security buildings, storage areas, and provisions for vehicular parking and material laydown;
 - Work No. 3: Satellite Collector Compounds, comprising switchgear, transformers, ancillary equipment and operation, maintenance, security and welfare units;

- Work No. 4: Battery Energy Storage System Compound including batteries and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables, fire safety infrastructure and operation, maintenance, security and welfare facilities;
- Work No. 5: Main Collector Compound, expected to be located close to or co-located to the Rosefield Substation, comprising switchgear, transformers and other electrical equipment.
- Work No. 6: Grid Connection Cabling Corridor, the 400kV Grid Connection Corridor to connect the Rosefield Substation and the National Grid East Claydon Substation;
- Work No. 7: Interconnecting Cabling Corridor(s), comprising Underground cabling that will connect the Solar PV modules and BESS compound to the BoSS, Collector Compounds, and the Rosefield Substation;
- Work No. 8: Temporary Construction and Decommissioning Compounds
- Work No. 8A: Primary Construction Compounds; and
- Work No. 8B: Secondary Construction Compounds
- Work No. 9: Highways Works (Facilitate access)
- Work No. 10: Green and Blue Infrastructure

1.4.8. The Proposed Development is described in full in **ES Volume 1, Chapter 3: Proposed Development Description [EN010158/APP/6.1]**.

1.5. Purpose and Structure of this Statement

- 1.5.1. Paragraph 4.11.2 of the Overarching National Policy Statement for Energy (NPS EN-1) emphasises that it is for the Applicant to ensure that there will be necessary infrastructure and capacity within an existing or planned transmission or distribution network to accommodate the electricity generated.
- 1.5.2. This Statement is part of a suite of documents which must accompany the DCO Application pursuant to Section 55 of the PA 2008 and Regulations 5 and 6 of the APFP Regulations.
- 1.5.3. This Statement has been prepared in accordance with Regulation 6(1)(a)(i) of the APFP Regulations, which requires an applicant for a DCO in respect of an onshore generating station to provide a statement of who will be responsible for designing and building the connection to the electricity grid.
- 1.5.4. The Statement is structured as follows:
- Section 1: Executive Summary;
 - Section 2: Introduction;
 - Section 3: Grid Connection Agreement;

- Section 4: Elements of Grid Connection;
- Section 5: Responsibilities for Designing and Building the Grid Connection;
- Section 6: Acquisition of Land Rights;
- Section 7: Consent for the Grid Connection Works;
- Section 8: Conclusion.

2. Grid Connection Agreement

- 2.1.1. The Applicant has received a grid connection offer from National Grid Electricity System Operator Limited (NGESO) to connect the Proposed Development to the NETS. NGESO was the system operator for the NETS, and the body within National Grid that made connection offers. The system operator changed its name to National Energy System Operator (NESO)¹ on 1 October 2024. NGET operate as the transmission owner, and as such, is the body responsible for constructing, owning and operating the National Grid East Claydon Substation.
- 2.1.2. The Applicant first met with NESO regarding the potential of a grid connection during late 2019 and an application for a connection was made following this. The grid connection offer for connection at National Grid East Claydon Substation was issued on 3 March 2020 and accepted by the Applicant on 5 June 2020.
- 2.1.3. The grid connection agreement allows for 100% of the transmission entry capacity (TEC) and demand capacity to connect in a single stage in October 2031, as publicly available on the 'TEC Register' which is found on the NESO website.
- 2.1.4. The Applicant submitted a Modification Application on 29 January 2025 to request a second User Bay at the National Grid East Claydon Substation, to add resilience to the Proposed Development's connection.
- 2.1.5. The Applicant received a Modification Offer from NESO on 29 April 2025. This offer introduced 'Stage 2' to the connection offer, which contains the works for the second User Bay. Stage 2 does not impact the existing contracted connection date or capacity but provides a completion date of 31 October 2038 for the second User Bay. The Applicant accepted this Modification Offer on 6 June 2025.
- 2.1.6. The grid connection offer allows the export of up to 500MW of electricity, and for the import of up to 500MW of electricity for ancillary services/grid balancing services, to/from the NETS via a connection to the National Grid East Claydon Substation. The Applicant has requested a reduction of the grid connection capacity, such that the export and import will be reduced to 335MW. This is expected to be confirmed within the grid connection offer by Q1 2026.
- 2.1.7. As such, the Applicant confirms that the output of ground mounted solar PV generating station (Work No. 1 of **Schedule 1** of the **Draft DCO [EN010158/APP/3.1]**), and BESS (Work No. 4) of Schedule 1 of the **Draft DCO [EN010158/APP/3.1]**, will be exported to the NETS via the National Grid East Claydon Substation, owned and operated by NGET.

¹ From this point, a single reference to NESO will be used.

3. Elements of Grid Connection

3.1. Introduction

- 3.1.1. All Works No. stated below, reference **Schedule 1** of the **Draft DCO [EN010158/APP/3.1]**.
- 3.1.2. The electricity generated by the Proposed Development will be exported to the NETS via new below-ground grid connection cables located within the Grid Connection Cabling Corridor (Work No. 6). This will connect the new Rosefield Substation Compound (Work No. 2) and the National Grid East Claydon Substation².
- 3.1.3. The grid connection cables comprised in the Grid Connection Cabling Corridor (Work No. 6) will consist of one or two 400kV cable circuits, each consisting of three cables, which will run approximately 800m from Rosefield Substation to National Grid's East Claydon Substation.
- 3.1.4. The Works Areas where the following Works will be located are identified on the **Works Plans [EN010158/APP/2.3]**:
- Work No. 2: Rosefield Substation Compound;
 - Work No. 3: Satellite Collector Compounds
 - Work No. 3A: Satellite Collector Compounds
 - Work No. 3B: Satellite Collector Compound Transformer;
 - Work No. 4: Battery Energy Storage System Compound;
 - Work No. 6: Grid Connection Cabling Corridor.
- 3.1.5. It is assumed that the construction phase, including the process of building the Rosefield Substation and Grid Connection Cabling Corridor, would be commenced in Q2 2029, and be for a period of 24 months.

3.2. Rosefield Substation

- 3.2.1. The Rosefield Substation (Work No. 2) will convert electricity generated by the Solar PV Site (Work No. 1) and stored by the BESS Compound (Work No. 4) to 400kV for onward transmission to the NETS via the Grid Connection Cabling Corridor (Work No. 6).

² NGET are replacing the existing East Claydon Substation in parallel, but not as part of, the Rosefield Connection works. The Applicant's connection will be to the replacement National Grid East Claydon Substation, which is currently planned to be directly west of the existing substation.

- 3.2.2. The Rosefield Substation will also convert from 400kV, electricity imported from the NETS via the Grid Connection Route for storage in the BESS Compound (Work No. 4).
- 3.2.3. The Rosefield Substation (Work No. 2) will comprise electrical infrastructure, as required to facilitate the export and import of electricity between the Proposed Development and the NETS, including:
- substation, switch room buildings and ancillary equipment including auxiliary transformers and reactive power units;
 - buildings housing control, offices, storage, workshop, security and welfare facilities;
 - monitoring and control systems for this Work No. 2 and Work Nos. 1, 3, 4 and 5;
 - 400 kV harmonic filter compound, 400kV reactive power compensation compound; and
 - electrical and control cables including electrical cables connecting to Work Nos. 1, 3, 4 and 5..

3.3. Grid Connection Cabling Corridor

- 3.3.1. The route of the Grid Connection Cabling Corridor (Work No. 6) will run north west from the Rosefield Substation (Work No. 2), then step north, passing to connect to the National Grid East Claydon Substation as shown in **ES Volume 3, Figure 3.5: Zonal Masterplan [EN010158/APP/6.3]**.
- 3.3.2. The cables between Rosefield Substation and National Grid East Claydon Substation will be installed below ground via excavated trenching or Horizontal Directional Drilling (HDD) construction methods. Cables will be laid at approximately 1.5m depth below ground level, except where crossing infrastructure such as utilities, roads or ditches (where cables will be laid at an appropriate separation depth from the infrastructure).
- 3.3.3. The construction, operation, and (where applicable) decommissioning of all elements of the Grid Connection will be undertaken (respectively) in accordance with the **Outline Construction Environmental Management Plan [EN010158/APP/7.2]**, the **Outline Operational Environmental Management Plan [EN010158/APP/7.3]** and the **Outline Decommissioning Environmental Management Plan [EN010158/APP/7.4]**

3.4. National Grid East Claydon Substation

- 3.4.1. The applicant understands that NGET plan to replace their existing East Claydon Substation (originally built in the 1960s), with a new substation, located directly west of the existing site. The National Grid East Claydon Substation is nearing the end of its useful life, and the equipment needs replacing to support regardless of the Proposed Development's connection. The applicant

acknowledges that NGET's plans indicate the replacement substation (of which Rosefield's connection would be less than 10% of the proposed capacity), will be larger than the existing facility; however, it is important to clarify that this expansion is not attributable to the Proposed Development's connection.

- 3.4.2. NGET is in the process of preparing and submitting a Planning Application under the TCPA 1990 to Buckinghamshire Council for the National Grid East Claydon 400kV Substation replacement
- 3.4.3. Subject to approval, National Grid plans to start construction in summer 2026, the construction of the four new pylons in spring/summer 2028, and the completion of the National Grid East Claydon Substation in late 2029.
- 3.4.4. The Applicant acknowledges that different levels of information may be available at different times and, as such, the Applicant has taken a proportionate approach to what information is available at the time of submission. Therefore, the Work No. 6 Grid Connection Cabling Corridor secured through **Schedule 1** of the **Draft DCO [EN010158/APP/3.1]** has been shown on the **Works Plans [EN010149/APP/2.3]** to cover the proposed National Grid East Claydon Substation site for cabling and associated works required to facilitate this connection to the National Grid East Claydon Substation. This is to ensure the Applicant has the necessary authorisation and powers to connect into the National Grid East Claydon Substation.

4. Responsibilities for Designing and Building the Grid Connection

4.1. Responsibilities of the Applicant

- 4.1.1. The Applicant and its appointed contractors will be responsible for designing and building the following elements of the grid connection:
- Rosefield Substation (Work No. 2);
 - Grid Connection Cabling Corridor (Work No. 6).
- 4.1.2. The Applicant is also responsible for construction of the relevant generator bays within the National Grid East Claydon Substation, These works are expected to comprise the termination of the underground Grid Connection cables to above-ground cable sealing ends, the connection of the sealing ends to busbars within the National Grid East Claydon Substation, the installation of the generator bays, including circuit breakers, and the installation of related infrastructure including disconnectors, switches and instrument transformers.
- 4.1.3. Under the **Draft DCO [EN010158/APP/3.1]** the Applicant has proposed that NGET would also have the benefit of the powers (in addition to the Applicant) in connection with the Grid Connection Cabling Corridor (Work No. 6) and it may therefore also be responsible for constructing that part of the grid connection route that connects into the National Grid East Claydon Substation.

4.2. Responsibilities of National Grid Electricity Transmission

- 4.2.1. NGET will be responsible for the construction works for the replacement of the National Grid East Claydon Substation.
- 4.2.2. NGET will also be responsible for the facilitation of the connection of the Proposed Development's connection cables into the National Grid East Claydon substation; NGET will not complete the construction of the generator bay within the National Grid East Claydon substation for the Proposed Development's connection (this would be the Applicant's responsibility).
- 4.2.3. NGET will be responsible for obtaining planning permission under the TCPA 1990 for the design and construction of the National Grid East Claydon Substation, which will replace the existing substation. NGET will undertake a consultation on their proposal to construct the new East Claydon Substation as a replacement to the existing substation, prior to submitting their planning application. The new proposed National Grid East Claydon Substation is located directly west of the existing substation, south of East Claydon Road, East Claydon MK18 3NF, approximately 1km from the village of East Claydon. NGET's substation planning application will be submitted prior to the end of 2025, to Buckinghamshire Council.

- 4.2.4. The works will be carried out in accordance with the TCPA 1990 Consent and National Grid requirements; it is intended that NGET will be responsible for enabling the construction of the point(s) of connection for the Proposed Development to connect into, via Works No. 6 Grid Connection Cabling Corridor secured through Schedule 1 of the **Draft DCO [EN010158/APP/3.1]**.

5. Acquisition of Land Rights

5.1. Overview

- 5.1.1. As shown in the **Schedule of Negotiations and Powers Sought [EN010158/APP/4.4]**, discussions have been ongoing with the relevant land interests, detailed below.

5.2. Solar PV Site and BESS Compound

- 5.2.1. The Applicant has secured all of the property rights it requires for the Solar PV Site and BESS Compound.

5.3. Grid Connection Cabling Corridor

- 5.3.1. The Grid Connection Cabling Corridor involves a short cable route through fields between the Rosefield Substation and the National Grid East Claydon substation. The land holding of these field is mixed.
- 5.3.2. Part of the Grid Connection Cabling Corridor land is owned by the same landowner as the Solar PV site, where the Applicant has secured property rights. Currently the freehold of the other parts of the land within the Grid Connection Cabling Corridor is held by third-party landowners with whom the Applicant has been engaging to secure the land and rights required to construct and operate the Scheme.

6. Consent for the Grid Connection Works

- 6.1.1. The Grid Connection, comprising the Rosefield Substation (Work No. 2) and the Grid Connection Cable Corridor (Work No. 6), forms part of the Proposed Development for which development consent is being sought via the DCO Application.
- 6.1.2. If the same terms as those set out in the **Draft DCO [EN010158/APP/3.1]** are granted, development consent for the Grid Connection works for which the Applicant is responsible, as described in this Statement, will have been secured.
- 6.1.3. NGET will seek consent for the National Grid East Claydon Substation replacement, which is expected to be via a TCPA 1990 application due to be submitted in winter 2025 to Buckinghamshire Council. The Applicant is not aware of any reason why this permission should not be obtained, in which case permission for the National Grid East Claydon Substation will have been secured.

7. Conclusion

- 7.1.1. The Applicant is required to submit a statement pursuant to Regulation 6(1)(a)(i) of the APFP Regulations, stating who will be responsible for designing and building the connection to the electricity grid.
- 7.1.2. This Grid Connection Statement provides confirmation to the Secretary of State of the requirement above, namely:
- The Applicant has received a grid connection offer from NESO to connect the Proposed Development to the NETS and has accepted that offer;
 - A connection to the National Grid East Claydon 400kV Substation will be provided via 400kV underground cables from the proposed Rosefield Substation within the Proposed Development.
- 7.1.3. All parts of the Grid Connection are within the Order Limits; the works required for the Grid Connection are included in the works describing the authorised development set out in **Schedule 1** of the **Draft DCO [EN010158/APP/3.1]** and are assessed in the Environmental Statement submitted as part of the DCO Application for the Proposed Development.
- 7.1.4. The Applicant has or will have, the ability to procure the necessary land and rights in order to accommodate the Grid Connection Cabling Corridor.
- 7.1.5. Consent for the National Grid East Claydon 400kV Substation replacement will be sought by NGET. The Applicant is not aware of any reason why this permission should not be obtained.



rosefieldsolarfarm.co.uk