

Gate Burton Energy Park EN010131

Grid Connection Statement
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APFP Regulation 5(2)(a)(i)
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



Prepared for:

Gate Burton Energy Park Limited

Prepared by:

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Executive Summary

Gate Burton Energy Park Limited (the Applicant) is developing Gate Burton Energy Park (the Scheme). The Scheme comprises the construction, operation, maintenance and decommissioning of a solar photovoltaic (PV) electricity generating facility and energy storage facility with a total capacity exceeding 50 megawatts (MW) and an underground approximately 7.5km 400kV electrical connection to the National Grid Substation at Cottam Power Station (Cottam National Grid Substation).

The Scheme comprises on contiguous site, split into the Solar and Energy Storage Park and the Grid Connection Corridor for descriptive purposes (as shown on **ES Volume 2: Figure 1-2 [EN010131/APP/3.2]**).

This Grid Connection Statement (the 'Statement') has been prepared by the Applicant as part of an application for a Development Consent Order (DCO) for the construction, operation, maintenance and eventual decommissioning of the Scheme. 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.

This Statement provides confirmation to the Secretary of State for Business, Energy and Industrial Strategy (the Secretary of State) that the Solar and Energy Storage Park will connect to Cottam National Grid Substation via a 400kV cable circuit to be located within the Grid Connection Corridor. The Statement also explains who is responsible for designing and building the infrastructure to connect the Scheme to the Cottam National Grid Substation.

The Applicant has, or will have, the ability to procure the necessary land and rights in order to connect the Scheme to the Cottam National Grid Substation; and has sought compulsory acquisition powers to facilitate this if required, as set out in the draft Development Consent Order **[EN010131/APP/6.1]** and the Statement of Reasons **[EN010131/APP/6.4]**. The Scheme for which development consent is being sought includes the necessary infrastructure to connect the Solar and Energy Storage Park (including an On-Site Substation) to the Cottam National Grid Substation via the Grid Connection Corridor.

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1. Introduction

1.1 Introduction

- 1.1.1 This Grid Connection Statement (the Statement) has been prepared by Gate Burton Energy Park Limited (the Applicant) as part of an application for a Development Consent Order (DCO) for the Gate Burton Energy Park (the Scheme). The application for the DCO has been submitted to the Planning Inspectorate (on behalf of the Secretary of State), with the ultimate decision whether to grant a DCO being made by the Secretary of State pursuant to the Planning Act 2008.
- 1.1.2 The Scheme is a new solar energy farm proposal that would deliver electricity to the national electricity transmission network. The Scheme comprises the construction, operation, maintenance and decommissioning of a solar photovoltaic (PV) electricity generating facility and energy storage facility with a total capacity exceeding 50 megawatts (MW) and an underground approximately 7.5km 400kV electrical connection to the National Grid Substation at Cottam Power Station (Cottam National Grid Substation).
- 1.1.3 The Scheme comprises the Solar and Energy Storage Park and the Grid Connection Corridor (as shown on ES Volume 2: Figure 1-2 **[EN010131/APP/3.2]**)
- 1.1.4 Electricity will be generated at the Solar and Energy Storage Park. The Solar and Energy Storage Park includes ground mounted solar PV panel arrays, supporting electrical infrastructure and an On-Site Substation and Battery Energy Storage System (BESS).
- 1.1.5 The BESS consists of a compound and battery array to allow for the importation, storage and exportation of energy to the National Grid (as shown in Annexes A, B and C of ES Appendix 2-A **[EN010131/APP/3.3]**). The On-Site Substation will transform the energy from the BESS and the solar PV panel arrays from 33 kilovolt (kV) to 400kV for transport to the Cottam National Grid Substation. The Solar and Energy Storage Park will be connected to the existing Cottam National Grid Substation, using 400kV cables buried underground. The cables will run between the Solar and Energy Storage Park to the Cottam National Grid Substation via the Grid Connection Corridor.
- 1.1.6 The Scheme is defined as a Nationally Significant Infrastructure Project (NSIP) and will require a Development Consent Order (DCO) from the Secretary of State for Business, Energy and Industrial Strategy, due to its generating capacity exceeding 50 megawatts (MW).

1.2 Purpose and Structure of this Statement

- 1.2.1 This Statement is part of a suite of documents which must accompany the DCO Application pursuant to Section 55 of the Planning Act 2008 and Regulations 5 and 6 of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP Regulations).

1.2.2 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.

1.2.3 The Statement is structured as follows:

- Section 1: Introduction;
- Section 2: Elements of Grid Connection;
- Section 3: Installation and Construction Details;
- Section 4: Responsibilities for Designing and Building the Grid Connection;
- Section 5: Consent for the Grid Connection Works;
- Section 6: Conclusion

2. Elements of Grid Connection

2.1 Connection between the Solar and Energy Storage Park and Cottam National Grid Substation

- 2.1.1 The connection into Cottam National Grid Substation will be provided via an existing 400kV connection bay within the Cottam National Grid substation compound.
- 2.1.2 The Solar and Energy Storage Park will connect to the Cottam National Grid substation via a new, single 400kV circuit comprising of three 400kV underground cables plus auxiliary cables (e.g. optical fibre and communication cables) to be located within the Grid Connection Corridor. The 400 kV cable circuit will connect the On-Site Substation located within the Solar and Energy Storage Park to the Cottam National Grid Substation. The total length of the cable route is approximately 7.5 km.
- 2.1.3 The works required to facilitate the connection are described by the works referred to in Schedule 1 of the draft DCO **[EN010131/APP/5.2]**. The draft DCO should be referred to for the precise terminology and full details of each Work No. The location of each Work is defined by the Works Plans **[EN010131/APP/5.2]**. The relevant Works are:
- Work No. 2 – a battery energy storage system (BESS);
 - Work No. 3 – an onsite substation; and
 - Work No. 4 – works to lay high voltage electrical cables, access and construction compounds for the electrical cables.
- 2.1.4 The Grid Connection Corridor partially overlaps the grid connection corridors for Island Green Power's Cottam and West Burton solar projects. Whilst the overlap area(s) will therefore be shared between the Applicant and Island Green Power, the connections for each project are separate, and the infrastructure associated with Cottam and West Burton solar projects do not form part of the Scheme and are not required to connect the Scheme to the NETS.

2.2 Connection at Cottam National Grid Substation

- 2.2.1 To accommodate the proposed connection the Applicant has an agreement with National Grid Electricity System Operator (NGESO) to utilise an existing connection bay at Cottam National Grid Substation. This use of existing infrastructure means there are no additional or extending works required to connect the Scheme beyond minor works required as standard to make the technical connection.

3. Installation and Construction Details

3.1 Construction programme

- 1.1.1. All construction will be undertaken by the Applicant and its appointed contractors. Engineering, Procurement and Construction (EPC) contracts will be issued to ensure the appointed contractors are experienced, proficient and can carry out the required works in compliance with the requirements of the scheme and NGETs connection offer.
- 1.1.2. The construction of the 400kV cable circuit within Work No. 4 will be undertaken within the construction phase for the Scheme and will be completed over an approximately 24 – 36 month period. The construction timescale will allow for the cable route to be delivered in stages, sensitive to any local restrictions, such as agricultural or ecological limitations. The cable route will run from the Cottam National Grid Substation to the On-site Substation (Work No. 3).
- 1.1.3. The Applicant intends to use a mix of trenchless (for example HDD – Horizontal Directional Drilled) and Open Trench techniques to construct the 400kV cable circuit. Where trenchless techniques are required, these will be scheduled individually within the overall programme envelope to ensure that the works are completed in the most efficient manner possible. This will be determined at the detailed planning and pre-construction phase.
- 1.1.4. Cable installation will follow behind excavation in the same sequence. There will be an estimated overlap of up to two weeks between sections as individual joint bays become available and completed bays are backfilled and reinstated.
- 1.1.5. Construction of the On-site Substation will be carried out in phases. The civil works phase will commence with the excavation and laying of the compound foundation. Concrete bases will be laid for transformers, the switch room and overhead buzz-bar sections as well as bunded areas and cable trenches. The civil works will be completed with the construction of the switch room and any additional structures required for the compound. Following this the electrical cables will be laid and individual transformers will be placed and secured in their final positions. Additional electrical infrastructure will then be installed, including switching and boards within the switchroom, overhead buzz-bars bars and earthing. Fencing, gates and security measures will then be fitted. Finally electrical connections will be carried out and a complete testing and commissioning programme will be undertaken prior to energisation. Construction of the On-Site Substation will be carried concurrently with the cable route and main scheme construction.

3.2 Construction method

- 3.2.1 The Scheme will require a new 400kV circuit comprised of three 400kV cables plus auxiliary cables (e.g. optical fibre and communication cables) to connect the On-site Substation with the Cottam National Grid Substation. The Applicant intends to use a mix of Trenchless and Open Trench techniques. Joint bays will

be required at a frequency no less than 100m and no greater than 750m to join sections of cable together.

- 3.2.2 The Grid Connection Corridor crosses a range of existing infrastructure such as major roads (A156), various minor roads and tracks, PRow's, existing and/or buried underground utilities (such as medium and high-pressure gas mains), a disused railway, the river Trent, field drains and main drains. A full list of crossings is available in the Construction Method Statement (see Appendix 2-B of the ES [EN010131/APP/3.3]).

The On-Site Substation will consist of four 400kV to 33kV transformers and spare transformer bay with supporting overhead buzz-bars. A switching room containing the control and switching arrays, cable trenches, earthing infrastructure, electrical connections to the scheme and additional civil/security works inclusive of access and egress points and bunding.

- 3.2.3 Further detail on the construction methods can be found in **Chapter 2: The Scheme** of the Environmental Statement [EN010131/APP/3.1] and the Construction Method Statement (see Appendix 2-B of the ES [EN010131/APP/3.3]).

4. Contractual Agreements

- 4.1.1 The Scheme will generate electricity and transmit it to the System Operator (National Grid Electricity System Operator (NGESO)) via the Cottam National Grid Substation which is infrastructure owned by the Transmission Owner (NGET). NGESO and NGET are both owned and operated by the National Grid Group as two distinct legal entities (from April 2019).
- 4.1.2 The Applicant accepted the grid connection offer reference A/NGET/WBEP/21/COTT-EN(0) provided by NGESO during March 2021, thereby securing a Bilateral Connection Agreement (BCA) to the existing Cottam National Grid Substation.
- 4.1.3 The connection to the NETS will be an import and export connection to facilitate both the export of electricity from the solar PV and the BESS and the charging of the BESS from external sources.
- 4.1.4 As such, the Applicant confirms that output of the Solar and BESS will be exported via the NETS.

5. Responsibilities for Designing and Building the Grid Connection

5.1 Responsibilities of Gate Burton Energy Park Limited

5.1.1 The Applicant and its appointed contractors will be responsible for designing and building the following elements of the grid connection (the below is a summary with full descriptions provided in Schedule 1 of the draft DCO [EN010131/APP/6.1]):

- a) Work No. 3: Construction of a new 33kV to 400kV On-Site Substation at the Solar and Energy Park to connect to Cottam National Grid substation via the new 400kV circuit with the associated works such as equipment and protections, circuit breakers, and voltage suppressors;
- b) Work No. 4: Install a new 400kV circuit consisting of three 400kV cables from On-Site Substation to the Cottam National Grid substation; also includes connection works within the assigned generator bay at Cottam National Grid Substation; and
- c) Any diversion of existing utilities required, inclusive of undergrounding existing overhead infrastructure.

5.1.2 The Applicant and its appointed contractors will also be responsible for the ongoing ownership, management, maintenance and eventual decommissioning of the new 400kV to 33kV On-Site Substation and the new 400kV underground cable circuit connecting the Solar and Energy Storage Park and Cottam National Grid Substation.

5.2 Responsibilities of National Grid

5.2.1 NGET will be responsible for designing and building all non-contestable works (works that will be undertaken by National Grid). It is anticipated this will consist of minor works within the existing 400kV connection bay at Cottam National Grid Substation to enable the Gate Burton connection.

6. Acquisition of land and rights

- 6.1.1 Negotiations for the purchase of land, rights and interests are ongoing in respect of any new rights required for the Scheme where voluntary agreement has not yet been reached. It is necessary for the Applicant to seek compulsory acquisition powers to secure such land, rights and interests and to ensure that any third-party interests or encumbrances affecting such land, rights and interests may be acquired, overridden or extinguished pursuant to the draft DCO, thereby ensuring that the Scheme can be constructed, operated and maintained.
- 6.1.2 The Applicant is also seeking to obtain land and rights by negotiation where possible. The status of negotiations is reported in the Compulsory Acquisition Schedule **[[EN010131/APP/3.3]**.

7. Consent for the Grid Connection Works

- 7.1.1 The Applicant is seeking development consent for works to connect the Scheme to the Cottam National Grid Substation including an On-Site Substation (Work No. 3) and 400 kV cable circuit (Work No. 4) to be located within the Grid Connection Corridor within its DCO application.
- 7.1.2 The Applicant has a competent, accepted grid connection offer from NGET which stipulates the works required to connect to Cottam National Grid Substation, these works have been detailed in this paper.
- 7.1.3 As such, it is considered that if the same terms as those set out in the draft Development Consent Order **[EN010131/APP/6.1]** are granted, development consent for the development to facilitate the grid connection from the Scheme to the Cottam National Grid Substation will have been secured.

8. Conclusion

- 8.1.1 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.
- 8.1.2 It is considered that this Grid Connection Statement provides confirmation to the Secretary of State of the requirement above, namely:
- a) A connection to the Cottam National Grid Substation will be provided via a 400kV cable circuit (Work No. 4) from the Cottam National Grid Substation to the On-Site Substation (Work No. 3) at the Solar and Energy Storage Park via the Grid Connection Corridor.
 - b) The Applicant has, or will have, the ability to procure the necessary land and rights in order to connect the Scheme to the NETS; and
 - c) As stipulated in the **draft Development Consent Order [EN010131/APP/6.1]** the On-Site Substation and Grid Connection Corridor forms part of the Scheme for which development consent is being sought.