Riverside Energy Park

Electricity Grid Connection Statement

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CORY
RIVERSIDE ENERGY

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1 Summary

1.1.1 This Grid Connection Statement has been prepared to support Cory Environmental Holdings Limited's (trading as Cory Riverside Energy) (Cory or the Applicant) application for a Development Consent Order.

1.1.2 The Proposed Development comprises Riverside Energy Park (REP) and the associated Electrical Connection. REP would be connected to the electricity distribution network via a new 132 kilovolt underground electricity cable connection.

1.1.3 The proposed Electrical Connection route runs southwards from the REP site towards the existing Littlebrook substation in Dartford. A number of alternative route options were identified through studies undertaken by UK Power Networks Limited (UKPN), the local Distribution Network Operator (DNO), however, only one overall route would be required.

1.1.4 The purpose of the Grid Connection Statement is to explain who will be responsible for designing and building the Electrical Connection.

1.1.5 The Applicant continues to work closely with UKPN and has a contractual agreement in place for UKPN to undertake a feasibility study including intrusive investigation works. Once the outcome of intrusive investigations is known, the Applicant will seek to enter into a formal Connection Agreement with UKPN.

1.1.6 UKPN will construct all the non-contestable elements of the Electrical Connection. The Applicant has not yet made a decision on whether the contestable element of works will remain with UKPN or whether an accredited Independent Connection Provider will be used.

1.1.7 The Applicant will acquire the necessary land and rights to allow UKPN or an Independent Connection Provider to carry out the works.

2 Introduction

2.1 Purpose

2.1.1 This document is the Grid Connection Statement and has been prepared to support Cory Environmental Holdings Limited's (trading as Cory Riverside Energy (Cory)) (the Applicant) application for a Development Consent Order (DCO) (the DCO application) made pursuant to the Planning Act 2008 (the PA 2008).

2.1.2 This Grid Connection Statement accompanies the DCO application and has been prepared to comply with Regulation 6(1)(a)(i) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (the APFP Regulations 2009), which requires the Applicant for the construction or extension of an onshore generating station to provide a statement of who will be responsible for designing and building the connection to the electricity grid.

2.1.3 The purpose of this document is to explain who will be responsible for designing and building the connection to the electricity grid which forms part of the Proposed Development.

2.1.4 Paragraph 4.9.1 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 in the planned transmission and distribution network to accommodate the electricity that would be generated by a proposed new power plant.

2.1.5 UKPN is the public facing identity of the local DNO for REP, and are referred to as such throughout this DCO application. However, any future Connection Agreement would be signed with the corporate entity London Power Networks Plc.

2.1.6 A full glossary of defined terms and abbreviations is presented in the Project Glossary (**Document Reference 1.6**).

2.2 Proposed Development

2.2.1 The Proposed Development comprises REP and the associated Electrical Connection. These are described in turn, together with the anticipated REP operations, below. **Chapter 3** of the Environmental Statement (ES) (**Document Reference 6.1**) provides further details of the Proposed Development.

REP

2.2.1 REP would be constructed on land immediately adjacent to Cory's existing RRRF, within the London Borough of Bexley (LBB), and would complement the operation of the existing facility. It would comprise an integrated range of

technologies including: waste energy recovery, anaerobic digestion, solar panels and battery storage. The main elements of REP would be as follows:

- **Energy Recovery Facility (ERF)**: to provide thermal treatment of Commercial and Industrial (C&I) residual (non-recyclable) waste with the potential for treatment of (non-recyclable) Municipal Solid Waste (MSW);
- **Anaerobic Digestion facility**: to process food and green waste. Outputs from the Anaerobic Digestion facility would be transferred off-site for use in the agricultural sector as fertiliser or as an alternative, where appropriate, used as a fuel in the ERF to generate electricity;
- **Solar Photovoltaic Installation**: to generate electricity. Installed across a wide extent of the roof of the Main REP Building;
- **Battery Storage**: to store and supply additional power to the local distribution network at times of peak electrical demand. This facility would be integrated into the Main REP building; and
- **On Site Combined Heat and Power (CHP) Infrastructure**: to provide an opportunity for local district heating for nearby residential developments and businesses. REP would be CHP Enabled with necessary on site infrastructure included within the REP site.

Electrical Connection

2.2.2 REP would be connected to the electricity distribution network via a new 132 kilovolt (kV) underground electricity cable connection. The route options for the Electrical Connection are shown in the Works Plans (**Document Reference 2.4**).

2.2.3 In consultation with UK Power Networks (UKPN), Cory is considering Electrical Connection route options to connect to the existing National Grid Littlebrook substation located south east of the REP site, in Dartford. The route options are located within the LBB and Dartford Borough, and would run from a new substation proposed to be constructed within the REP site.

2.2.4 The Electrical Connection would comprise the following fundamental elements:

- A connection into a substation at the REP site (the REP Electrical Interface Point);
- A new connection at the existing Littlebrook substation (the Electrical Connection Point); and
- Cables connecting between the two locations above.

Description of the Electrical Connection

2.2.5 The proposed Electrical Connection route runs southwards from the REP site towards the existing Littlebrook substation, in Dartford. A number of alternative route options were identified through studies undertaken by UK Power Networks (UKPN), the local distribution network operator. A number of alternative routes have been assessed within the ES (**Document Reference 6.1**), however, only one overall route would be required to connect from the REP site to the Electrical Connection Point. Whilst UKPN and the Applicant have identified a preferred Electrical Connection route, the Application retains secondary alternatives in case insurmountable engineering difficulties are identified for the preferred route.

2.2.6 The preferred route is Route 1 but following variant 1A along Norman Road and 2B through The Bridge development. Selection of a final single Electrical Connection route will be confirmed in partnership with UKPN, after further detailed engineering investigation has been completed. The final route will take account of UKPN's statutory obligations under the Electricity Act (to develop an efficient, co-ordinated and economical system) as well as the responses received from statutory consultation. It is expected that a single Electrical Connection route option will be decided upon during the pre-examination and examination process, and that will allow the Development Consent Order to be granted on the basis of a single route.

2.2.7 The Electrical Connection routes are generally located on the highway (comprising highway, verges and railway/watercourse crossings on highway structures) and are predominantly through urban areas. Some route lengths run outside the public highway and include the Crossness LNR, adjacent areas of the River Cray and Dartford Creek valleys and through The Bridge development. In developed areas the site surroundings for the Electrical Connection are generally residential, but with significant industrial and commercial areas.

2.2.8 The Electrical Connection route would cross the River Darent, a tributary which feeds into the River Thames. The Dartford Marshes Local Wildlife Site (LWS) is a large area of marshland and wetland habitat along the River Darent and on the Darent floodplain. The Electrical Connection route would cross the River Darent using the existing highway or using trenchless installation techniques. Whilst a crossing in the existing highway is the preferred solution, trenchless installation is more likely. A deliverable solution is considered achievable using these installation options.

2.2.9 The UKPN circuits at the National Grid substation at Littlebrook were completed and energised in 2013. The National Grid substation sits adjacent to the former Littlebrook Power Station. UKPN's design studies, which started in 2017, have identified that the Littlebrook substation represents the nearest suitable point of connection for REP to the NETS. UKPN have confirmed, through their discussions with National Grid, that no upgrade or reinforcement works would be required to Littlebrook substation or the NETS generally to accommodate an incoming connection from REP.

2.2.10 Throughout the pre-application stage, the Applicant has worked closely with UKPN. This has included agreement to undertake a feasibility study to review potential connection options. This study identified that a connection to Barking (which is the connection point for the existing adjacent Riverside Resource Recovery Facility) would not be progressed due to technical reasons related to the cable tunnel running beneath the River Thames and that Littlebrook substation represented the closest suitable location for REP to connect, in line with UKPN's obligations under the Electricity Act. The main alternatives considered and the reasons for their selection are set out in Chapter 5 of the ES.

2.3 Installation and Construction Details

2.3.1 The works required to install the electricity cables and to make electrical connections are described in **Section 3.5** of **Chapter 3** of the ES (**Document Reference 6.1**).

2.3.2 For the Electrical Connection, primarily new underground 132 kV electrical cables will connect the Proposed Development with the existing National Grid Littlebrook substation, to export electricity from the generating equipment to the electricity distribution network. Overground works outside of REP would only occur if a cable trough crossing of an existing feature is required, or where cables are attached to existing structures.

2.3.3 The underground works would predominantly comprise installing the cables via open cut trenching techniques. However, a limited number of areas have been identified where engineering constraints may require trenchless techniques e.g. Horizontal Directional Drilling (HDD), to be adopted. Independent crossing structures ("troughs") may also be required at some locations.

3 Responsibilities for the Connection

3.1 Responsibilities for the Connection

3.1.1 The Electrical Connection included in the Application has been designed by UKPN. UKPN will refine the design as the detailed design, development and implementation process continues. UKPN's design work completed to date, including route option selection, has been undertaken to inform the DCO application and a future Connection Agreement between Cory and UKPN. The electrical substation at the REP site will then be connected via the new underground 132 kV electrical cables, laid within Works 6 *(Works to construct and install supporting infrastructure)* and Work No. 9 (*the installation of an electrical connection)*) to the existing National Grid Littlebrook substation in Dartford. UKPN or an ICP will be responsible for the detailed design, alignment and construction of the Electrical Connection cabling and supporting infrastructure delivered within Work No. 6 and 9.

3.1.2 Work No. 10 provides for '*works to connect the electrical connection (work number 9a-c) to the Littlebrook substation and associated improvements'.* UKPN have confirmed that no new infrastructure is required at the existing National Grid Littlebrook substation in order to connect REP to the electricity distribution network. Associated electrical works will be restricted to within the existing substation itself. Cabling up to the National Grid substation and the connection into the substation will be designed in detail and undertaken by UKPN or an ICP.

3.1.3 Although a formal Connection Agreement has not yet been signed with UKPN, their extensive design work to date has progressed under a contract between the parties to inform the final scope, cost and timescales within a future Connection Agreement.

3.1.4 Article 7 of the dDCO (*Benefit of this Order*) grants consent for Works Nos. 6(a), 9 and 10 for the benefit of the Applicant and UKPN. In addition, Article 8 provides that the benefit of the order may be transferred. The consent of the Secretary of State is required for a transfer, except in the case of a transfer to a person licensed under section 6 of the Electricity Act 1989 provided certain conditions as to compensation for compulsory acquisition have been met. These provisions enable the Electrical Connection to be implemented as described above.

3.2 Contractual Agreements

3.2.1 The Applicant continues to work closely with UKPN to progress the development of the Electrical Connection proposals, including the procurement of intrusive trial pits to further inform the understanding of potential engineering difficulties along the routes set out in the Order Limits. Although not a 'Connection Agreement', the Applicant already has a contractual agreement in place for UKPN to undertake a feasibility study including intrusive investigation works which are underway.

3.2.2 It is the Applicant's intention to seek an offer and enter into a formal Connection Agreement with UKPN once the outcome of the intrusive investigations is known and details of the Electrical Connection are further refined.

4 Land Rights

4.1.1 The majority of the Electrical Connection route would lie within adopted highway land. Cable installation outside of adopted highway land would potentially occur where engineering constraints have been identified, or where private land represents a more suitable alterative (e.g. the central route through The Bridge development).

4.1.2 The Statement of Reasons (**Document Reference 4.1**) explains that the Applicant is seeking compulsory acquisition powers in the dDCO (**Document Reference 3.1**) for the necessary rights over the Electrical Connection route, to allow the Electrical Connection to be constructed, used and maintained.

5 Conclusion

5.1.1 The Applicant is required to submit a statement pursuant to Regulation 6 of the APFP Regulations confirming "*who will be responsible for designing and building the connection to the electricity grid*".

5.1.2 This Statement explains that:

- The Applicant has been working closely with, and will secure, an agreement with UKPN regarding the Electrical Connection for its electricity generating station;
- A future Connection Agreement will confirm that UKPN will continue to design and implement all identified non-contestable elements of the Electrical Connection. UKPN may also design and deliver the contestable elements of the Electrical Connection. However, if the Applicant appoints an ICP to implement elements of the work that are contestable, the detailed design and alignment would be undertaken by the ICP, taking account of UKPN and National Grid design standards and the overarching design principles of the Electrical Connection that have informed the DCO application and that would be secured by it;
- The Applicant will acquire the necessary land and rights to allow UKPN or an Independent Connection Provider to construct the Electrical Connection; and
- The Electrical Connection is included in the dDCO (**Document Reference 3.1**). If the DCO is made substantially in accordance with the dDCO, the Applicant will have secured development consent for the Electrical Connection.